BUS

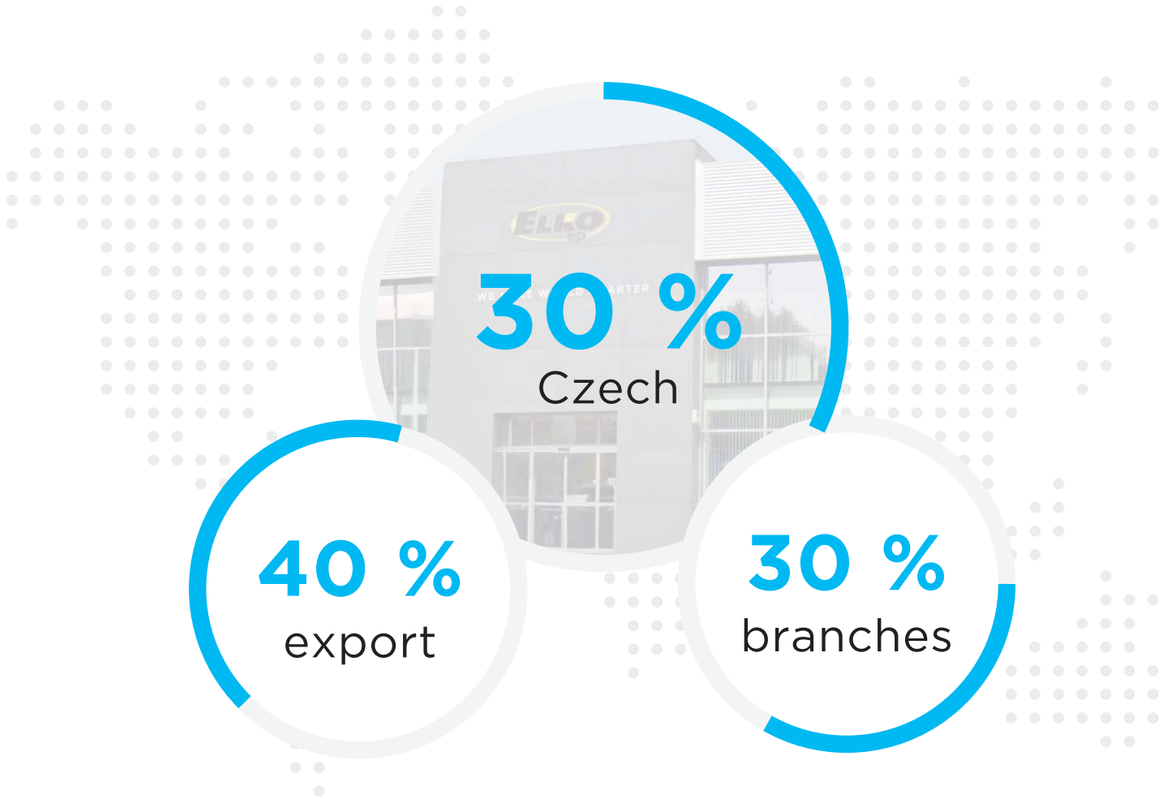
Wired electro-installation

www.elkoep.com/bus

30 years of innovations

About us

ELKO EP have been your partner in the field for 31 years, developing and manufacturing the highest quality electronic devices for electroinstallation as well as smart system for residential and building automation.



ELKO EP employs more than 330 people across 15 foreign branches and exports its products to more than seventy countries. Company of the Year, Visionary of the Year, Superbrands and Global Exporter of the Year are just some of the awards we have received throughout the years as we consistently strive to move forward in the field of innovation and development.

Millions of relays, thousands of smart homes, hundreds of buildings and many satisfied customers - This is ELKO EP; a traditional company based in the center of Europe, where own development, production, logistics, and service are at the forefront of our focus.

Facts and stats

WORLDWIDE
11 branches
6 franchises
70 export countries

350
employees
in holding

30 000 +
iNELS
installations

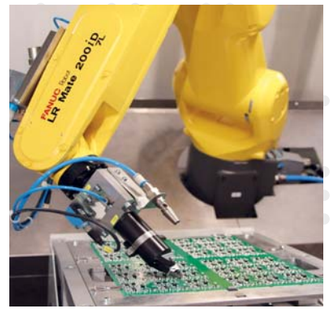
World leader
in DIN rail
relays
production

MANUFACTURER
fully automated
complete proces

30 000 000 +
manufactured
products

R&D
continuosly
innovative

SUPPORT
24 / 7 / 365



WE MAKE WORLD SMARTER

www.elkoep.com

Central units

System units

Detectors | sensors

Converters

Switching actuators

Shutter actuators

Lighting control

Input units

Combined units

Wall controllers

Glass controllers

Metal controllers

Glass socket panels / frames

Metal sockets panels / frames

Example Sockets / frames

Icons configurator

Thermo-regulators

Integration

Multimedia

iNELS app

Accessories iNELS

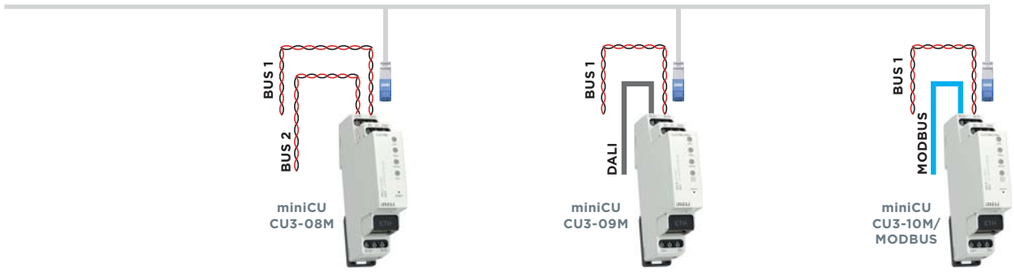
Inspinia touch units

Revolutionizing building automation: Exploring the new iNELS bus architecture

In the rapidly evolving landscape of smart home and building automation, the iNELS Bus system is stepping into the spotlight with a groundbreaking new architecture. This innovative approach not only caters to the needs of independent units like villas and apartments but also scales seamlessly for large installations such as hotels and commercial buildings.

Autonomy Redefined: MiniCU Family

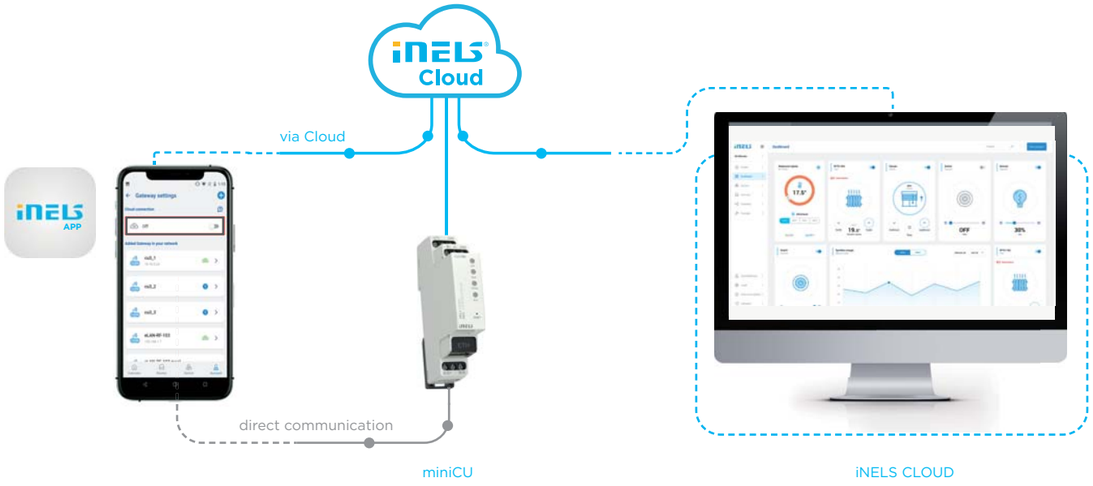
The introduction of the MiniCU family marks a significant shift, where each bus operates as a fully autonomous unit. This not only simplifies the system's structure but also ensures continuous functionality even if communication with other units is lost. MiniCU, short for Mini central units (CU3-08M/09M/10M) , controls 1 or 2 buses, along with an additional bus for Dali/Modbus.



	CU3-08M	CU3-09M	CU3-10M/MODBUS
BUS1	✔	✔	✔
BUS2	✔		
DALI BUS		✔	
MODBUS			✔

Cloud Connectivity and Beyond

The new IP infrastructure elevates the iNELS Bus system to new heights. The connection to the central iNELS CLOUD system opens up possibilities for unlimited scaling. This cloud integration not only enables the coordination of units within a single installation but also facilitates inter-installation collaboration. Geographical barriers are broken down, allowing a control element in one location to manage devices in another, creating a truly interconnected network.



Power and Data Efficiency with MQTT

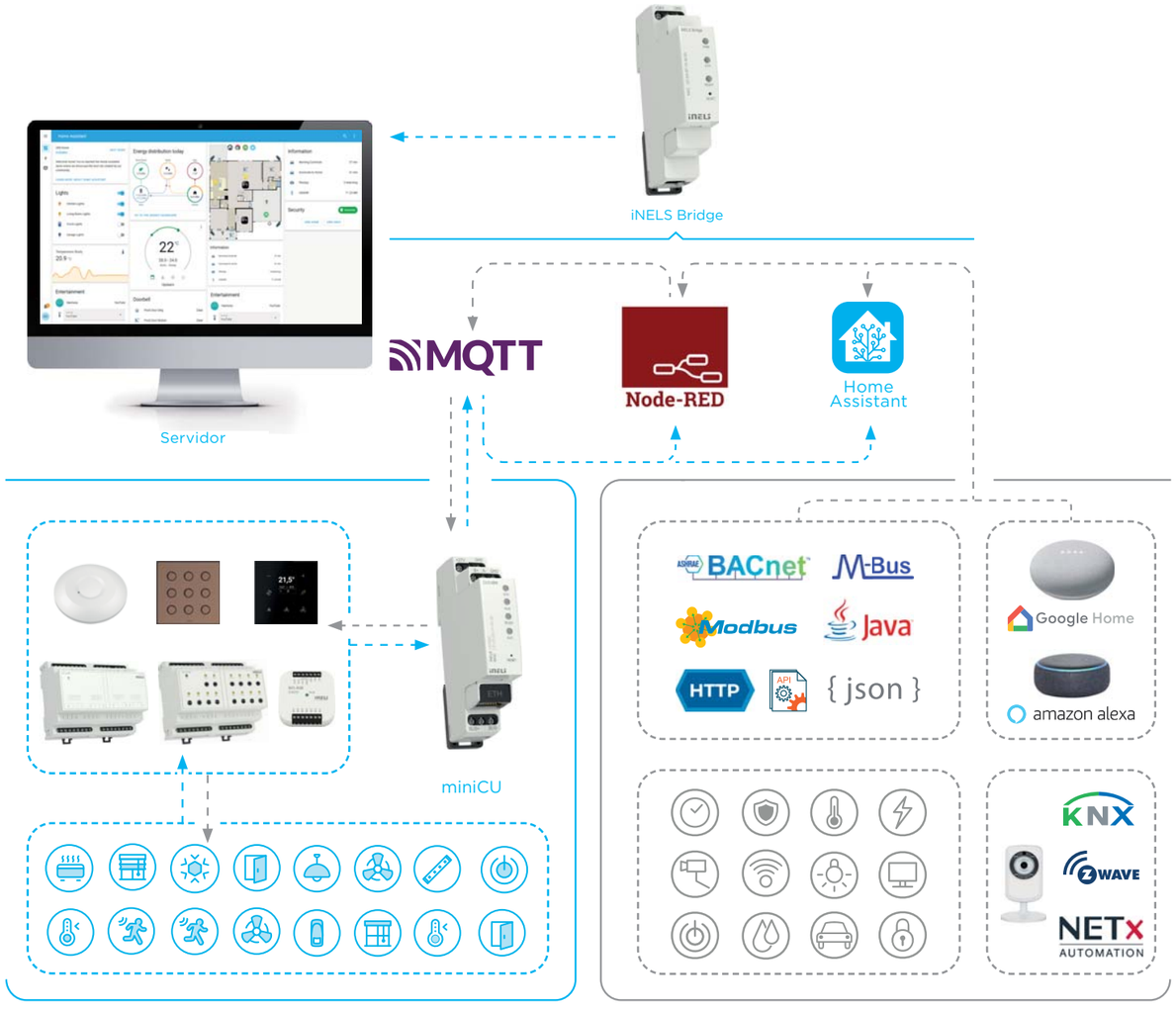
One of the standout features is the implementation of MQTT communication in all central units. MQTT, renowned for its fast response time, simplifies integration and control across the entire iNELS system with the 3rd Party world. This industry-standard protocol ensures efficient interaction between devices, regardless of the number in operation. The use of MQTT extends beyond the central units, reaching into both wired and wireless solutions, contributing to the overall energy efficiency and responsiveness of the system.

iNELS Bridge: Opening Doors to Third-Party Integration

Expanding its horizons, the new IP infrastructure includes the iNELS Bridge—a third-party integration control unit. This unit adds versatility by allowing almost the entire iNELS portfolio to be integrated, along with third-party devices using the Home Assistant platform. The pre-installation of MQTT broker and Home Assistant server for 3rd party integration makes iNELS Bridge not just a bridge but a comprehensive solution ready for diverse third-party integrations.

Centralized Control for Large Installations: Seamless Integration with Home Assistant and NodeRED

The iNELS Bus system recognizes the need for centralized control in large installations. This central control system acts as a hub, connecting and monitoring various iNELS devices, from sensors to controllers. The integration of communication protocols like MQTT and IP facilitates seamless data exchange, fostering a synchronized and harmonious operation. This adaptability of iNELS extends further with seamless integration capabilities with popular platforms like Home Assistant and NodeRED. This integration opens up a world of possibilities, allowing users to incorporate iNELS devices and functionalities into their existing smart home ecosystems. Whether it's custom automations, advanced scripting, or creating complex flows, the combination of iNELS with Home Assistant and NodeRED adds a layer of customization and control for users seeking a personalized smart home experience.



Protocols

BACnet, M-Bus, Modbus, Java, HTTP, API, { json }

iNELS Bridge

Integrations

Home Assistant, Node-RED, Pasarela MQTT

MQTT TCP/UDP

iNELS Cloud

GET IT ON Google Play

Download on the App Store

BMS (Building management system)

FLOWBOX, niagara framework®, EasyIO, iRidi, SKY PLATFORM, NETx AUTOMATION

Heating & Cooling

IntesisBox®, COOLAUTOMATION, INSPINIA

Aircon Interfaces

3rd party systems

KNX, somfy, LUTRON, PHILIPS hue, Z-WAVE, Control4

Cameras & Intercoms

alhua, HIKVISION, 2N An Axis company

Access control systems & PMS

Yale smart Living, ring, tuya, Opera, dormakaba

Visualization

INSPINIA

Inspinia SQ 8" panel

Inspinia SQ 10" panel

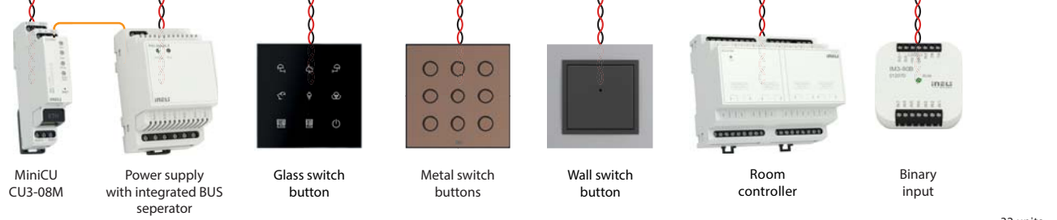
Inspinia RT 4" Retrofit panel

Inspinia SQ 4" Room Controller

LOCAL NETWORK

BUS 1 | CU3-08M

BUS 1, 32 units



MiniCU CU3-08M

Power supply with integrated BUS seperator

Glass switch button

Metal switch buttons

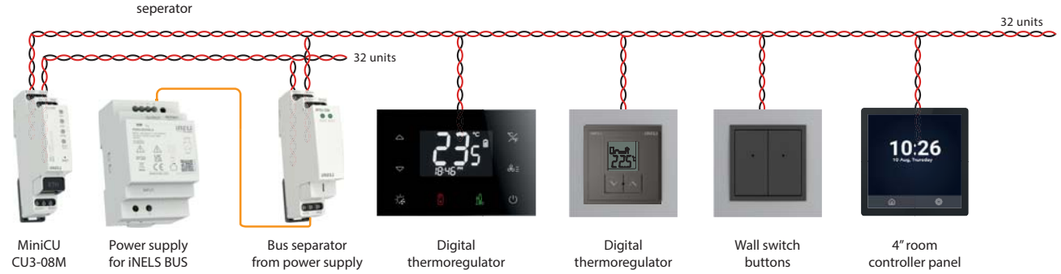
Wall switch button

Room controller

Binary input

BUS 1 BUS 2 | CU3-08M

BUS 1, 32 units; 32 units



MiniCU CU3-08M

Power supply for iNELS BUS

Bus separator from power supply

Digital thermoregulator

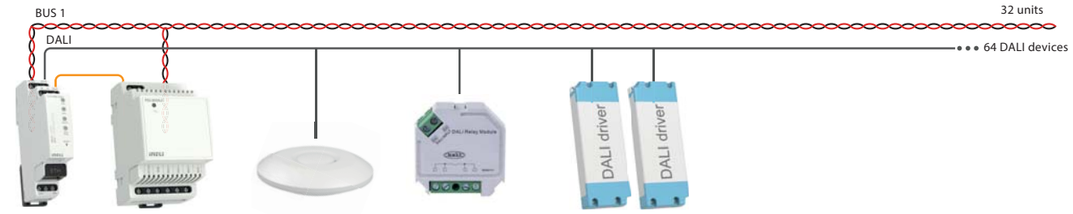
Digital thermoregulator

Wall switch buttons

4" room controller panel

BUS 1 DALI | CU3-09M/DALI

BUS 1, DALI, 32 units, 64 DALI devices



MiniCU CU3-09M/DALI

Power Supply with BUS separator integrated with DALI Power Supply

DALI sensor

DALI sensor

DALI driver

DALI driver

BUS 1 MODBUS | CU3-10M/MODBUS

BUS 1, 32 units

MiniCU CU3-10M/MODBUS

Power supply with integrated BUS seperator

MODBUS thermostat

Combined unit with DALI output

Thermostat

Multifunctional panel

Card reader

RADIO 868 Mhz | eLAN-RF-103

RF gateway eLAN-RF-103

Motion detector

Window/ Door detector

Glass controller

Switching actuator

Dimming actuator

Switching socket-plug

Overview of system units

Central units

CU3-08M
Central unit
with 2x BUS,
max. 64 Elements

CU3-09M/DALI
Central unit
with 1 BUS, 1x DALI,
max. 32 Elements

CU3-10M/MODBUS
Central unit
with 1x BUS,
1x MODBUS

iNELS Bridge
Third-party integration
gateway

Detectors | sensors

MCD3-01
Ultra slim microwave
motion detector - ceilling
mount

PMS3-01
Ultra slim PIR motion
detector - ceilling mount

DLS3-1
Light intensity sensor

Converters

ADC3-60M
Analog-to-digital converter,
6 inputs

DAC3-04M
Digital to analog converter,
4 outputs

Input units

IM3-40B
Binary input unit,
4 inputs

IM3-80B
Binary input unit,
8 inputs

IM3-140M
Binary input unit,
14 inputs

TI3-40B
Temperature input,
4 inputs

TI3-60M
Temperature input,
6 inputs

Switching actuators

SA3-01B, SA3-02B
Switching actuator,
1 channel and 2
channels

SA3-04M
Switching
actuator,
4 channels

SA3-06M
Switching
actuator,
6 channels

SA3-014M
Switching actuator,
14 channels

SA3-014M/E
Switching actuator,
14 channels
(without manual
control buttons and
indicators)

SA3-022M
Switching actuator,
22 channels

EA3-022M
Switching actuator
without controls and
indicators,
22 channels

System units

PS3-30/iNELS
Power supply
with integrated BUS
seperator

PS3-30/DALI
Power Supply with
BUS separator
integrated with DALI
Power Supply

BPS3-01M,
BPS3-02M
Bus separator
from power supply

PSM3-30/iNELS
Power supply
for iNELS BUS

PSM3-60/iNELS
Power supply
for iNELS BUS

PSM3-100/iNELS
Power supply
for iNELS BUS

Converters

IBWL3-xxB-SL
iNELS BUS wireless link

Lighting control

DA3-22M
Universal dimming
actuator,
2 channels

DA3-66M
Dimming actuator,
6 channels

DA3-03M/RGBW
Dimming actuator
for RGBW strips

Shutter actuators

JA3-014M
Shutter actuator,
14 channels

JA3-014M/E
Shutter actuator,
14 channels (without
manual control
buttons and RE
status LED)

Combined units

RC3-610M/DALI
Room controller
with DALI dimmer

FA3-612M
Fancoil controller

IOU3-108M
Universal unit with
10 inputs and 8 outputs

Legend:

N

NEW

Overview of system units

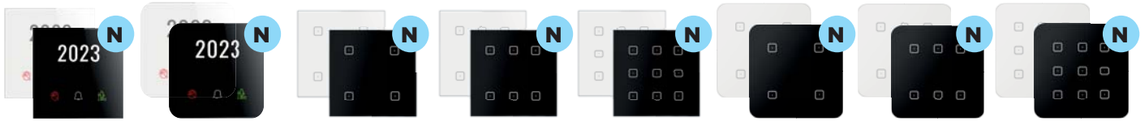
Wall controllers

WSB3-20, WSB3-20H
Wall switch button, 2 buttons

WSB3-40, WSB3-40H
Wall switch button, 4 buttons

WMR3-21
Wall card reader

Glass controllers



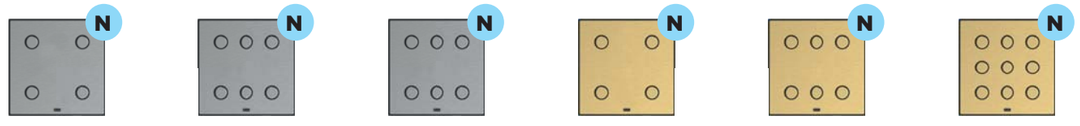
GCR3-30 sharp
GCR3-230 round
Glass card reader

GSB3-40 sharp
GSB3-60 sharp
GSB3-90 sharp
GSB3-240 round
GSB3-260 round
GSB3-290 round
Glass switch buttons

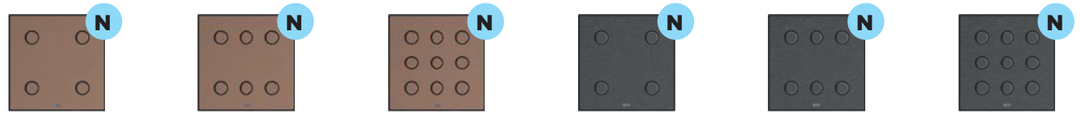
GSB3-40/S sharp
GSB3-60/S sharp
GSB3-90/S sharp
GSB3-240/S round
GSB3-260/S round
GSB3-290/S round
Glass switch buttons with symbols

ZSB3-40 sharp
ZSB3-60 sharp
ZSB3-90 sharp
Glass switch buttons

Metal controllers



MSB3-40/SS Brushed silver
MSB3-60/SS Brushed silver
MSB3-90/SS Brushed silver
MSB3-40/GG Satin brass
MSB3-60/GG Satin brass
MSB3-90/GG Satin brass



MSB3-40/CC Antique copper
MSB3-60/CC Antique copper
MSB3-90/CC Antique copper
MSB3-40/BB Graphite black
MSB3-60/BB Graphite black
MSB3-90/BB Graphite black

Metal switch buttons

Thermo-regulators

IDRT3-1
Digital room thermo-regulator

GRT3-70
sharp
Glass room thermo-regulator

GRT3-270
round
Glass room thermo-regulator

GRT3-100
Glass room thermo-regulator

Touch units

INS4SQ
4″ room control panel

INS4RT
4″ room retrofit panel

INS8SQ
8″ touch control panel

INS10SQ
10″ touch control panel

Servers & Gateways

MNSRV
Inspinia Mini Server

ACWI-xx
Aircon Wi-Fi Interface

Multimedia

LARA Radio
Player Internet radio

LARA Intercom
Multifunction communication equipment

iNELS app

New application for controlling all compatible elements from the iNELS portfolio.

Accessories

TELVA-2 230V, TELVA-2 24V
Thermodrive

AN-I, AN-E
Internal antenna
External antenna

TC, TZ, Pt100
Thermo sensors

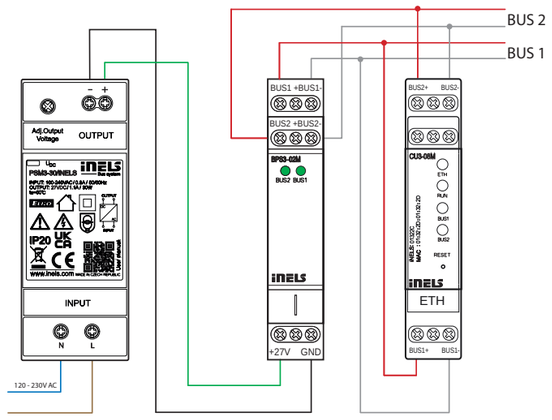
CU3-08M | Central unit with 2x BUS

EAN code
CU3-08M: 8595188191630
Order Code: 9163

- CU3-08M is one of the basic system control of iNELS BUS installations.
- The unit can work independently, as an autonomous project, or it can be controlled by the central software as part of a larger Project.
- The units is equipped with two BUS, to which it is possible to connect a total of up to 64 elements (2x32) from the iNELS BUS portfolio.
- The current load of one line is max. 1 A. BPS3-01M with 3 A can be used incase of connected device with more than 1 A.
- The RJ45 100 Mbps Ethernet connector is used for direct communication with the cloud for mobile app control or for communication with the superior unit within the iNELS IP topology.
- Configuration takes place in the iNELS3 Designer & Manager software (iDM3). Through iDM3 it is possible to update the firmware of central units and bus connected peripheral units.
- The central unit is implemented with MQTT protocol for 3rd party communication.
- The unit is powered from the BUS2 bus. Through the iNELS power supply and the BPS3 bus isolator.
- System units CU3-08M in 1-MODULE design are designed for mouting into a switchboard on DIN rail EN60715.

Technical parameters	CU3-08M
Indication LED STATUS	
Green - RUN:	The main program runs
Red- ERR:	The main program stalled
Communication	
System bus BUS1/BUS2	
Status indication (LED BUS):	green - indication of the operating status of the bus red - error indication on the bus
Maximum number of units:	2x32 Units
Maximum line length:	max. 300 m (depends on power loss)
Ethernet	
Connector:	RJ45
Communication speed:	100 Mbps
Ethernet status indication (LED ETH):	green - Ethernet communication yellow - Ethernet speed 100 Mbps
Default IP address:	192.168.1.1
RESET button	
Restart:	Short press
Reset (factory reset settings):	press the button to bring power on, button release 10 s after power is supplied
Power	
From bus BUS2	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Rated current:	50 mA (at 27 V DC)
Operating conditions	
Working temperature:	-20 to +55 °C
Storage temperature:	-25 to +70 °C
Air humidity:	max. 80%
Degree of protection:	IP20 device, IP40 with cover in the control cabinet
Degree of pollution:	2
Working position:	any
Installation:	to the control cabinet for DIN rail EN 60715
Design:	1-MODULE
Terminal plate:	max. 2.5 mm^2
Dimensions and weight	
Dimensions:	94 x 17.6 x 64 mm
Weight:	72 g
Standards:	EN 63044-1, EN 62368-1

Connection



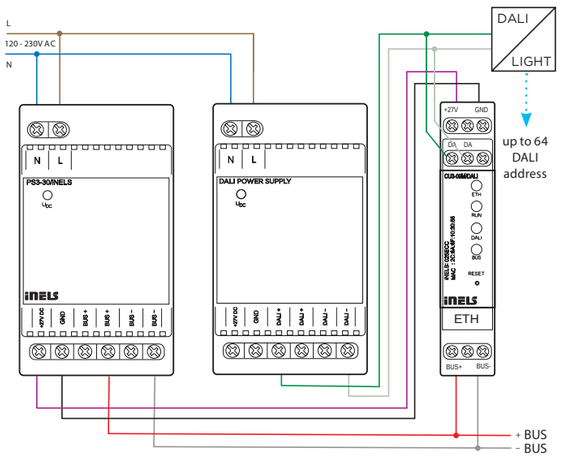
CU3-09M/DALI | Central unit with 1x BUS, 1x DALI

EAN code
CU3-09M/DALI: 8595188184656
Order Code: 8465

- CU3-09M is one of the basic system control units of iNELS BUS istallations.
- The unit can work independently, as an autonomous project, or it can be controlled by the central software as part of a larger project.
- The unit is equipped with one BUS to swich it is possible to connect up to 32 elements from the iNELS BUS portfolio.
- The current load of one line is max. 1 A. BPS3-01M with 3 A can be used incase of connected device with more than 1 A.
- The CU3-09M/DALI system unit is equipped with one DALI bus.
- The DALI system bus allow control of up 64 independent DALI for devices.
- Addressing of DALI can be done via the iDM3 software.
- The RJ45 100 Mbps Ethernet connector is used direct communication with the cloud for mobile app control or for communication with the superior unit within the iNELS IP topology.
- Configuration takes place in the iNELS3 Designer & Manager software (iDM3).
- Through iDM3 it is possible to update the firmware of central units and bus connected peripheral units.
- The central unit is implemented with MQTT protocol for 3rd party communication.
- The unit is powered by 27 V DC from iNELS power supply.
- System units CU3-09M/DALI in 1-MODULE design are designed for mouting into a switchboard on DIN rail EN60715.

Technical parameters	CU3-09M/DALI
Indication LED STATUS	
Green - RUN:	The main program runs
Red - ERR:	The main program stalled
Communication	
System BUS	
Maximum number of units:	max. 32 Units
Status indication (LED BUS):	green: BUS Operating Status red: error indication on the bus
Output interface DALI	
DALI addresses max.	64
Bus power supply:	external DALI power supply must be connected
Status indication (LED DALI):	green: DALI Operating Status
Ethernet	
Connector:	RJ45
Communication speed:	100 Mbps
Ethernet status indication (LED ETH):	green - Ethernet communication yellow - speed Ethernet 100 Mbps
Default IP address:	192.168.1.1
RESET button	
Restart:	short press
Reset (return to factory settings):	press the button to bring power on, button release 10 s after power is supplied
Power	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Rated current:	50 mA (at 27 V DC)
Operating conditions	
Working temperature:	-20 to +55 °C
Storage temperature:	-25 to +70 °C
Air humidity:	max. 80%
Degree of protection:	IP20 device, IP40 with cover in the control cabinet
Degree of pollution:	2
Working position:	any
Installation:	to the control cabinet for DIN rail EN 60715
Design:	1-MODULE
Terminal plate:	max. 2.5 mm^2
Dimensions and weight	
Dimensions:	94 x 17.6 x 64 mm
Weight:	72 g
Standards:	EN 63044-1, EN 62368-1

Connection



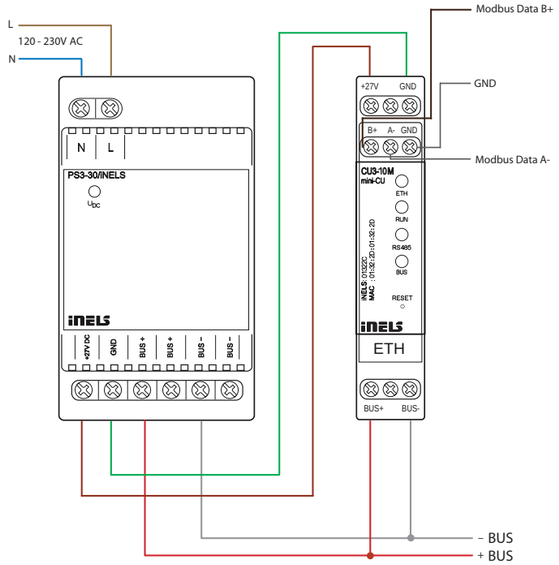
CU3-10M/MODBUS | Central unit with 1x BUS, 1x MODBUS

EAN code
CU3-10M/MODBUS: 8595188185219
Order Code: 8521

- CU3-10M/MODBUS is one of the basic system control units of iNELS BUS istallations.
- The unit can work independently, as an autonomous project, or it can be controlled by the central software as part of a larger project.
- The unit is equipped with one BUS to swich it is possible to connect up to 32 elements from the iNELS BUS portfolio.
- The current load of one line is max. 1 A. BPS3-01M with 3 A can be used incase of connected device with more than 1 A.
- The CU3-10M/MODBUS system unit is equipped with one Modbus system bus. The Modbus system bus allows control of modbus termostat and Air condition units (RS-485).
- The RJ45 100 Mbps Ethernet connector is used direct communication with the cloud for mobile app control or for communication with the superior unit within the iNELS IP topology.
- Configuration takes place in the iNELS3 Designer & Manager software (iDM3). Through iDM3 it is possible to update the firmware of central units and bus connected peripheral units.
- The central unit is implemented with MQTT protocol for 3rd party communication.
- The unit is powered by 27 V DC from iNELS power supply.
- System units CU3-10M/MODBUS in 1-MODULE design are designed for mouting into a switchboard on DIN rail EN60715.

Technical parameters	CU3-10M/MODBUS
Indication LED STATUS	
Green - RUN:	Flashing-communication with BUS, On-no communication
Red- ERR:	Flashing - no project, ON - unit STOP
Communication	
System bus BUS1	
Status indication (LED BUS):	green - unit status indication red - BUS fault indication
Maximum number of units:	max. 32 units to one BUS line
Maximum line length:	max. 300 m (depends on power loss)
Ethernet	
Connector:	RJ45
Communication speed:	100 Mbps
Ethernet status indication (LED ETH):	green - Ethernet comminication yellow - Ethernet speed 100 Mbps
Default IP address:	192.168.1.1
RESET button	
Restart:	short press
Reset (factory reset settings):	press the button to apply power, release the button 10 s after power is applied
Power	
BUS	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Rated current:	50 mA (at 27 V DC)
Operating conditions	
Working temperature:	-20 to +55 °C
Storage temperature:	-25 to +70 °C
Air humidity:	max. 80%
Degree of protection:	IP20 device, IP40 with cover in the switchboard
Surge category:	II.
Degree of pollution:	2
Working position:	any
Installation:	to the switching board on the EN 60715 DIN rail
Design:	1-MODULE
Terminal plate:	max. 2.5 mm²
Dimensions and weight	
Dimensions:	94 x 17.6 x 64 mm
Weight:	61 g
Standards:	EN 63044-1, EN 62368-1

Connection



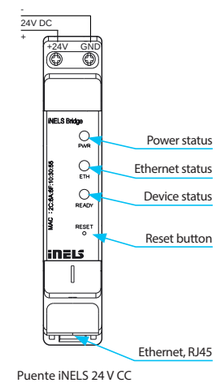
iNELS Bridge | Third-party integration gateway

EAN code
iNELS Bridge 24V DC: 8595188185097
Order Code: 8509

- iNELS Bridge works as a gateway for connecting third party devices and integrating them into the iNELS environment.
- It is a one module hardware contain powerful linux based computer.
- The unit comes with an option of pre-installed Home assistant with iNELS driver.
- The server uses the open Home Assistant platform, which contains more than 1000 existing integrations.
- The connection server is providing a communication environment between iNELS BUS System with the third-party devices, for which their protocols are also translated and submitted.
- iNELS Bridge is equipped ethernet port for fast and easy communication.
- The configuration is happening on its own web interface, where the default IP address is not fixed. (The IP address is assigned from the DHCP server and it's needed to be known when we're connected to the network).
- The device can be powered by 24VDC input, and it also supports Power over Ethernet (Passive POE), providing flexibility in power options.

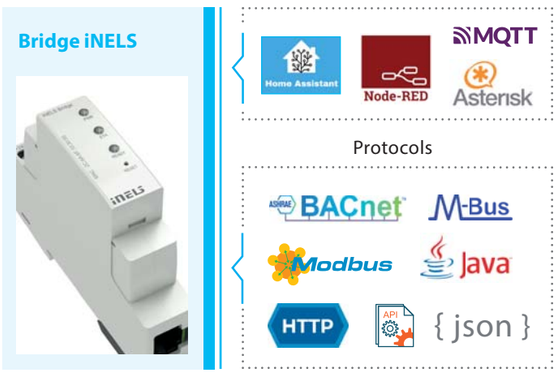
Technical parameters	iNELS Bridge
Communication	
Communication network:	Ethernet
Pre Installed software:	Home Assistant, MQTT Broker
Ethernet	
Connectors:	RJ-45
Communication speed:	10/100Mb
Ethernet status indication:	LED link
Preset IP address (ETH):	DHCP, mDNS
Power supply	
Version 24V DC:	8-36 V DC/1 A
Operating conditions	
Operating temperature:	-20 to +55 °C
Storage temperature:	-25 to +70 °C
Humidity:	max. 80%
Degree of protection:	IP20
Overvoltage category:	II.
Degree of pollution:	2
Operating position:	any
Installation:	DIN rail EN 60715
Design:	1-MODULE
Terminal:	max. 2.5 mm²
Dimensions and weight	
Dimensions:	94 x 17.6 x 64mm
Weight:	72 g
Standard:	EN 63044-1, EN 62368-1

Device description



Puente iNELS 24 V CC

Integrations and protocols



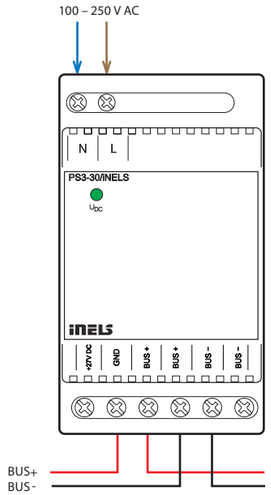
PS3-30/iNELS | Power supply with BUS separator

EAN code
PS3-30/iNELS: 8595188180115
Order Code: 8011

- PS3-30/iNELS is a switched stabilized power supply with a total power of 30 W.
- PS3-30/iNELS is used to power central units and external masters within the iNELS bus wiring.
- PS3-30/iNELS it is equipped with electronic protection against short circuit, overvoltage, power and temperature overload.
- The power supply includes an internally integrated BPS3-01M bus isolator to power one branch of the BUS, from which the iNELS peripheral units are further powered.
- PS3-30/iNELS 3-MODULE is designed for mounting in a switchboard on DIN rail EN60715.

Technical parameters	PS3-30/iNELS
Input AC	
Supply voltage:	100 - 250 V AC/50 - 60 Hz
Power dissipation:	max. 6.5 W
No-load power (apparent/ active):	max. 10 VA/1.5 W
Power consumption at max. Load (apparent/active):	max. 54 VA/33 W
Protection:	T2A fuse inside the device
Outputs	
Output voltage:	27 V
Max. load capacity:	1 A
Overall resource efficiency:	> 82 %
Time delay after Connection to AC network:	max. 5 s
Indication LED	
Green LED U_{DC}:	output voltage indication
Operating conditions	
Electrical power INPUT AC - OUTPUT BUS:	4 kV
Connection terminals:	Ordinal
Cross-section of connecting wires (mm²):	max. 1 x 2.5, max. 2 x 1.5 (With core max. 1 x 1.5)
Working temperature:	-20 °C to +55 °C
Storage temperature:	-30 °C to +70 °C
Working air humidity:	20 to 90 % RH
Degree of protection:	IP20 device, IP40 with cover in the control cabinet
Surge category:	III.
Degree of pollution:	2
Working position:	any, optimally vertical
Installation:	to the control cabinet for DIN rail EN 60715
Design:	3-MODULE
Dimensions:	90 x 52 x 65 mm
Weight:	160 g
Related standards:	general: EN61204, safety: EN61204-7, EMC: EN61204-3

Connection



PS3-30/DALI | Power Supply with BUS separator integrated with DALI Power Supply

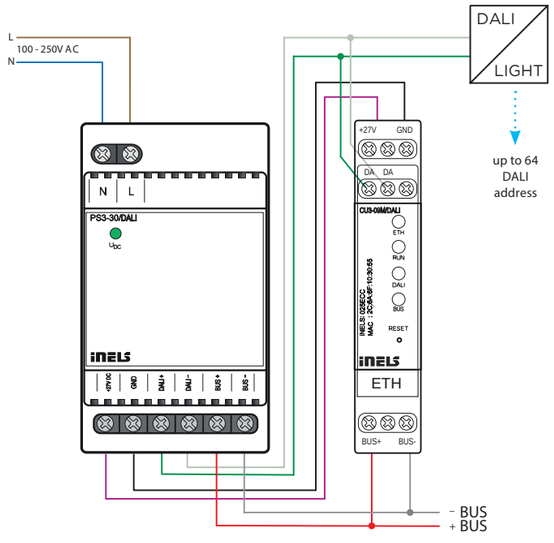
EAN code
PS3-30/DALI: 8595188192606
Order Code: 9260

- PS3-30/DALI provides 30 W total power for both iNELS bus (27 V DC) and DALI devices (16 V DC), ensuring efficient power distribution for central units, external masters, and peripheral devices including DALI BUS.
- PS3-30/DALI includes an internally integrated bus isolator to power one branch of the iNELS BUS, maintaining reliable and isolated power supply for connected peripheral units.
- Equipped with electronic protection against short circuits, overvoltage, power overload, and temperature overload, ensuring safe and stable operation.
- Offers over 85% efficiency, optimizing energy consumption and reducing heat generation.
- Compact Design: 3-module unit designed for easy mounting on DIN rail EN60715, allowing for streamlined installation in switchboards and control panels.
- Supports a wide input voltage range of 100-240 V AC and operates in temperatures from -20°C to +55°C, suitable for various environmental conditions.
- Meets safety standards EN 60950-1 and EN 62368-1, EMC standards EN 55032 and EN 55024, and is RoHS compliant, ensuring adherence to international safety and environmental regulations.

Technical parameters	PS3-30/DALI
Input AC	
Supply voltage:	100 - 250 V AC/50 - 60 Hz
Power dissipation:	max. 6.5 W
No-load power (apparent/ active):	max. 10 VA/1.5 W
Power consumption at max. Load (apparent/active):	max. 54 VA/33 W
Protection:	T2A fuse inside the device
Outputs	
27 V	
Output voltage:	27 V
Max. load capacity:	1 A
BUS	
Output voltage:	27 V
Max. load capacity:	1 A
DALI	
Output voltage:	16 V
Max. load capacity:	250 mA
Max. total load capacity*	30 W
Overall resource efficiency:	> 82 %
Time delay after Connection to AC network:	max. 5 s
Indication LED	
Green LED U_{DC}:	output voltage indication
Operating conditions	
Electrical power INPUT AC - OUTPUT BUS:	4 kV
Connection terminals:	Ordinal
Cross-section of connecting wires (mm²):	max. 1 x 2.5, max. 2 x 1.5 (With core max. 1 x 1.5)
Working temperature:	-20 °C to +55 °C
Storage temperature:	-30 °C to +70 °C
Working air humidity:	20 to 90 % RH
Degree of protection:	IP20 device, IP40 with cover in the control cabinet
Surge category:	III.
Degree of pollution:	2
Working position:	any, optimally vertical
Installation:	to the control cabinet for DIN rail EN 60715
Design:	3-MODULE
Dimensions:	90 x 52 x 65 mm
Weight:	174 g
Related standards:	general: EN61204, safety: EN61204-7, EMC: EN61204-3

** The maximum total load capacity is the sum of the loads of the individual outputs. (iNELS BUS + DALI BUS)*

Connection



BPS3-01M, BPS3-02M | Bus separator from power supply

EAN code
BPS3-01M: 8595188132442
BPS3-02M: 8595188132435

Order Code:
BPS3-01M: 9164
BPS3-02M: 9165

- The BPS3-01M and BPS3-02M units are used for impedance separation of the BUS from the supply voltage source.
- A BPS3-01M or BPS3-02M bus isolator is required for each CU3-XXM central unit.
- BPS3-01M allows the connection of one BUS branch with a load of max. 3 A.
- BPS3-02M allows the connection of two BUS branches with a load of max. 1 A for each branch.
- The outputs are equipped with overcurrent and surge protection.
- Indication of the output voltage of the BUS outputs by LEDs.
- BPS3-01M, BPS3-02M in 1-MODULE design are designed for mounting in a switchboard on DIN rail EN60715.

Technical parameters	BPS3-01M	BPS3-02M
Outputs		
Maximum load capacity:	3 A	2x 1 A
Communication		
Installation bus:	1x BUS	2x BUS
Power		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Power dissipation:	max. 0.5 W	
Rated current without Output load:	max. 8 mA	max. 15 mA
Voltage status indication on Terminals:	1x green LED	2x green LED
Connection		
Terminal plate:	max. 2.5 mm²/1.5 mm² with core	
Operating conditions		
Working temperature:	-20 to +55 °C	
Storage temperature:	-30 to +70 °C	
Cover:	IP20 device, IP40 with cover in the control cabinet	
Surge category:	II.	
Degree of pollution:	2	
Working position:	any	
Installation:	to the control cabinet for DIN rail EN 60715	
Design:	1-MODULE	
Dimensions and weight		
Dimensions:	90 x 17.6 x 64 mm	
Weight:	70 g	85 g
Standards:	EN 63044-1	

Connection

BPS3-02M + CU3-08M

PSM3-30/iNELS, PSM3-60/iNELS, PSM3-100/iNELS | Power supplies for iNELS BUS

- Used to supply central units and external master within intelligent electroinstallation iNELS.
- Through BUS separators from the supply voltage BPS3-01M and BPS3-02M, it supplies BUS lines from which iNELS peripheral units are also powered.
- Rated output voltage 27V DC with the possibility of regulation.
- High efficiency of up to 90%.
- Low ripple & noise.
- Protection: Overload, Over voltage and Short circuit.
- Continuously adjustable output voltage to adapt to the specific application, e.g. the need to compensate for the voltage drop caused by the length of the line.

EAN code:
PSM3-100/iNELS - 8595188184786
PSM3-60/iNELS - 8595188184779
PSM3-30/iNELS – 8595188184762

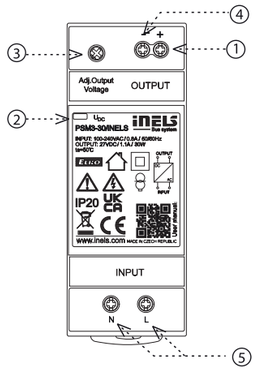
Order Code:
PSM3-100/iNELS - 8478
PSM3-60/iNELS - 8477
PSM3-30/iNELS – 8476

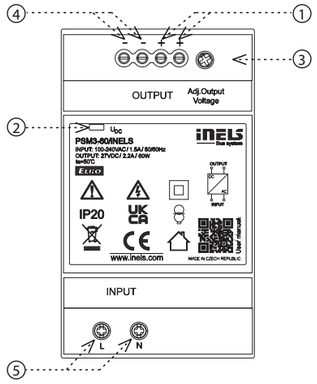
Technical parameters	PSM3-30/iNELS	PSM3-60/iNELS	PSM3-100/iNELS
Input			
Voltage range:	AC 100 - 240 V (50-60 Hz)		
Tolerance:	± 10%		
Efficiency:	89%	90%	90%
Burden without load (max.):	0.4W / 8VA	0.5W / 6.5VA	0.1W / 12VA
Burden with full load (max.):	33W / 60VA	70W / 111VA	105W / 160VA
Inrush current:*	max. 25A at 115V AC/60Hz max. 45A at 240V AC/50Hz	max. 30A at 115V AC/60Hz max. 60A at 240V AC/50Hz	max. 35A at 115V AC/60Hz max. 70A at 240V AC/50Hz
Output			
Rated voltage:	27V DC	27V DC	27V DC
Vol. setting range:	21.5 - 28.5V	20.5 - 29V	24.5 - 28V
Rated current:	1.1A	2.2A	3.4A
Rated power:	30W	60W	92W
Ripple & Noise:	150mV	150mV	150mV
Output indication:	blue LED	green LED	blue LED
Tolerance of output voltage:	5 %		
Overload protection:	from 130% - 200% rated output power		
Overvoltage protection:	from 110 % - 145% rated output power		
Overcurrent protection:	from 110% - 180% rated output power		
Short circuit protection:	temporarily disconnecting the output		
Other information			
Operating temperature:	-20 to +50°C		
Operating humidity:	20% ~ 90% non-condensing		
Storage temperature:	-40 to +80°C		
Dielectric strength:	3kV AC		
Isolation resistance:	100M Ω / 500V DC / 25°C / 70% RH		
Overvoltage category:	III.		
Pollution degree:	2		
Max. cable size:	max. 1x 2.5 mm², max. 2x 1.5 mm2 solid wire / with sleeve max. 1x 2,5 mm²		
Terminal torque:			
Input terminals:	0.3 Nm		
Output terminals:	0.5 Nm		
Protection degree:	IP20		
MTBF:	200 000 hours minimum, full load at 25°C ambient temperature		
Mounting:	DIN rail EN 60715		
Dimensions:	90 x 35 x 58 mm	90 x 52.5 x 58 mm	90 x 70 x 58 mm
Weight:	120 g	190 g	270 g
Standards:	general: EN61204, safety: EN61204-7, EMC: EN61204-3		

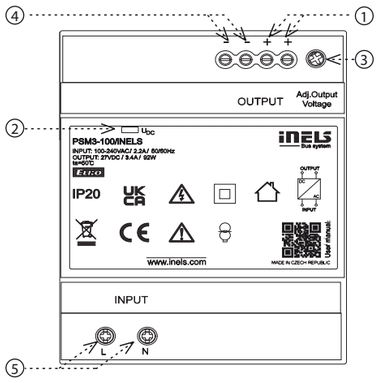
* The stated values are valid for the full load from the source

PSM3-30/iNELS, PSM3-60/iNELS, PSM3-100/iNELS | Power supplies for iNELS BUS

Description

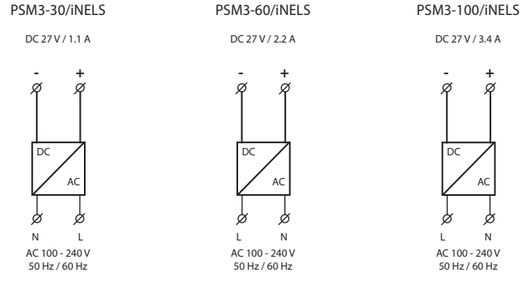






1. Output voltage terminals ⊕
2. Output voltage indication
3. Adjusting the output voltage
4. Output voltage terminals ⊖
5. Supply terminals

Connection



Power supplies PSxM are overcurrent protection devices, because it turns power supplies off , if the output current exceeds more than 30 % of the rated output of the power supply. Therefore, these units are not intended to supply e.g. halogen lamps, because the starting / inrush current (in the cold state) is approximately ten times the amount of the steady-state operating current. So these power supplies cannot turn on such lamps.

MCD3-01 | Ultra slim microwave motion detector - ceilling mount

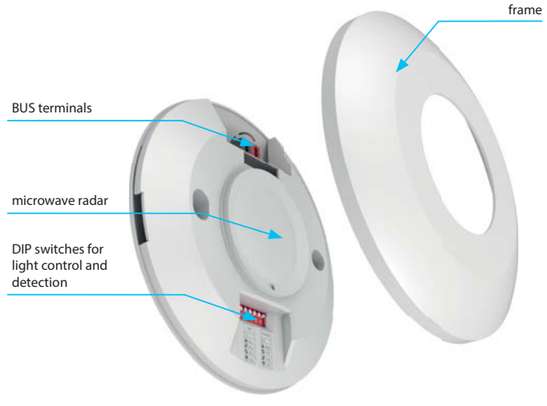
EAN code
MCD3-01: 8595188191234

Order Code: 9123

Technical parameters	MCD3-01
Inputs	
HF system:	5.8 GHz CW radar, ISM band
Detection angle:	360°
Reach:	2-10 m (radius.), adjustable
Time setting:	in iDM software
Recommended installation height:	2.5 - 3 m
Changing the sensitivity:	yes (in hardware)
Light metering:	yes (in hardware)
Communication	
Terminals:	0.3 - 0.8 mm²
Interface:	installation iNELS BUS
Power supply	
From iNELS BUS:	27 V DC, -20/+10 %, 20 mA
Operating conditions	
Work temperature:	-10 to 40 °C
Operation position:	free
Installation:	celling/surface
Dimension and weight	
Dimension:	115 x 24 mm
Standards:	EN 302372, EN 301489, EN 63044-1

- The MCD3-01 is a highly versatile and compact motion sensor designed for ceiling or surface mounting applications. With its ultra-slim design, the MCD3-01 seamlessly integrates into various environments, providing reliable and efficient motion detection capabilities.
- The sensor is powered by a 27 VDC power source, specifically the iNELS BUS system, ensuring stable and efficient operation.
- The MCD3-01 utilizes a 5.8 GHz continuous wave (CW) radar system operating in the ISM band, offering precise and reliable motion detection.
- The sensor provides a wide 360-degree detection angle, ensuring comprehensive coverage of the monitored area.
- The sensor's reach is adjustable, allowing the user to set the detection range. The reach can be configured within the range of 2 to 10 meters in radius, providing flexibility for different applications.
- The MCD3-01 features a software setting for adjusting time settings. The time setting can be configured, allowing customization of the sensor's activation duration.
- Designed to operate effectively in various environmental conditions, the sensor has a wide working temperature range of -10°C to +40°C, ensuring reliable performance in different settings.
- The MCD3-01 can be seamlessly integrated and combined with other iNELS units using the iDM3 software. This allows for the implementation of additional logics and functions, enabling automation and customized control scenarios based on specific requirements.
- The MCD3-01 features a compact form factor with dimensions of 115 x 24 mm, facilitating easy installation and integration into different ceiling or surface mounting applications.

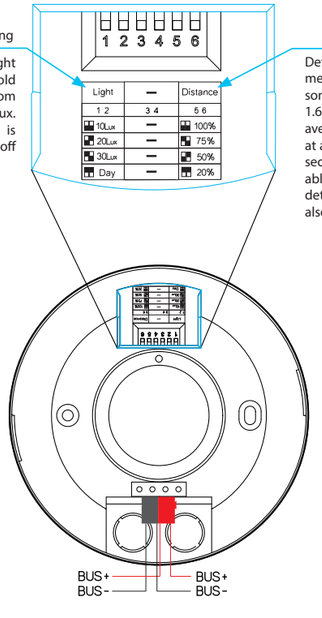
Another view



Connection

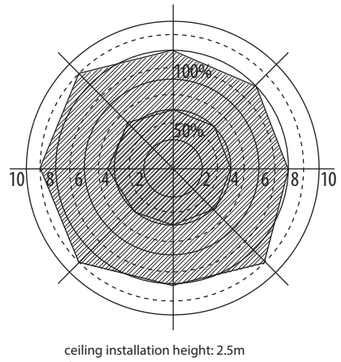
Light-control setting

The chosen light response threshold can be infinitely from approx. 10lux-30lux. Switch to the on is "1", switch to the off is "0"

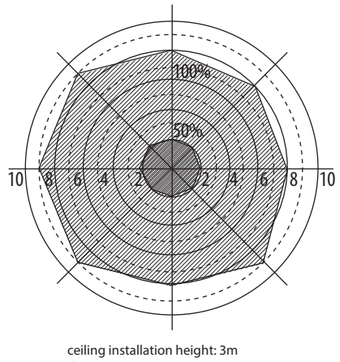


Detection distance

Detection distance is measured using a person who is between 1.6m~1.7m tall with an average build, moving at a speed of 1.0~1.5m/sec. if any of these variables are changed, the detection distance will also resultantly change.



ceiling installation height: 2.5m
detecting range setting:100%/50%



ceiling installation height: 3m
detecting range setting:100%/50%

PMS3-01 | Ultra slim PIR motion detector - ceilling mount

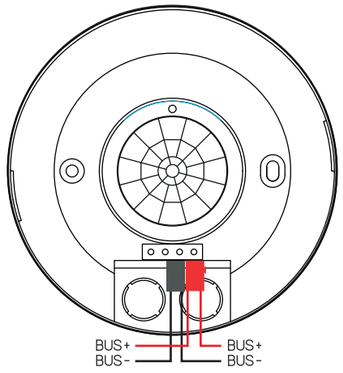
EAN code
PMS3-01: 8595188191357
Order Code: 9135

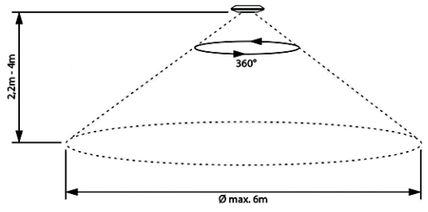
Technical parameters	PMS3-01
Function	
Detection angle:	360°
Time setting:	in iDM software
Recommended installation height:	2.5 - 3.5 m
Communication	
Terminals:	EIB ø 0.3 - 0.8 mm²
Interface:	installation iNELS BUS
Power supply	
From iNELS BUS:	27 V DC, -20/+10 %, 20 mA
Operating conditions	
Work temperature:	-10 to 40 °C
Operation position:	free
Installation:	celling/surface
Dimension and weight	
Dimension:	115 x 24 mm
Standards:	EN 63044-1

- The PMS3-01 is a highly versatile and compact motion sensor designed for ceiling or surface mounting applications. With its ultra-slim design, the PMS3-01 seamlessly integrates into various environments, providing reliable and efficient motion detection capabilities.
- The sensor is powered by a 27 VDC power source, specifically the iNELS BUS system, ensuring stable and efficient operation.
- The PMS3-01 utilizes a infrared for precise and reliable motion detection.
- The sensor provides a wide 360-degree detection angle, ensuring comprehensive coverage of the monitored area.
- The sensor's reach is upto 6m max, allowing the user to install the unit at a height of 2.5 m-3.5 m, providing flexibility for different applications.
- The PMS3-01 features a software setting for adjusting time settings. The time setting can be configured, allowing customization of the sensor's activation duration.
- Designed to operate effectively in various environmental conditions, the sensor has a wide working temperature range of -10°C to +40°C, ensuring reliable performance in different settings.
- The PMS3-01 can be seamlessly integrated and combined with other iNELS units using the iDM3 software. This allows for the implementation of additional logics and functions, enabling automation and customized control scenarios based on specific requirements.
- The PMS3-01 features a compact form factor with dimensions of 115 x 24 mm, facilitating easy installation and integration into different ceiling or surface mounting applications.

Another view

Connection





DLS3-1 | Light intensity sensor

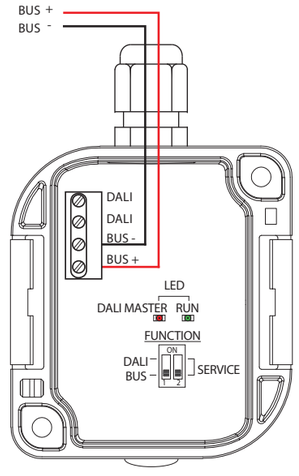
EAN code
DLS3-1: 8595188157506
Order Code: 5750

Technical parameters	DLS3-1
Inputs	
Range of measurement of lighting:	1 - 100 000 lx
Detection angle:	40 °
Ouputs	
Indication red LED:	identification DALI MASTER/setting indication
Indication green LED RUN:	communications/unit status
Communication	
Interface:	installation iNELS BUS, DALI
Power supply	
From iNELS BUS:	27 V DC, -20/+10 %
Rated current:	12 mA (27 V DC)
From DALI BUS:	16 V (max. 23 V)
Rated current:	20 mA (16 V DC)
Dissipated power:	max. 0.5 W
Connection	
Terminals:	max. 1x2.5, max. 2x1.5/with sleeve max. 1x2.5 mm²
Operating conditions	
Operating temperature:	-30 to +60 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP65
Operating position:	vertical
Dimension and weight	
Dimension:	96 x 62 x 34 mm
Weight:	100 g
Standards:	EN 63044-1

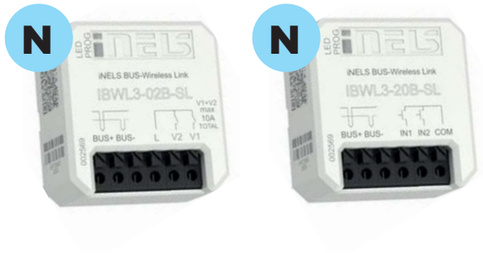
For proper function of the detector it is necessary to eliminate all sources of light interference in the sensing area.

- The luminescence sensor DLS3-1 is for sensing the current luminescence at the point of installation of the unit.
- The DLS3-1 sensor is equipped with two communication interfaces:
  - iNELS BUS installation
  - DALI (a maximum 4 pcs of DMD3-1 or DLS3-1 units can be used on one DALI bus).
- Information about the current value of the light intensity can be used in tasks of maintaining constant luminescence. In space where it is possible, thanks to the contribution of natural light from the outside to adjust the artificial light, which can reduce energy consumption.
- Thanks to the DLS3-1 units cannot only be used in residential projects, but also in commercial projects, offices or manufacturing plants, warehouses.
- The DLS3-1 unit is recommended to be installed so that the luminescence sensor for sensing faces down and should not be exposed to direct radiation.
- Setting up a communication interface with DIP switches no. 1:
  - in the upper position determines the communication interface DALI
  - in the lower position determines the communication interface iNELS.
- The DLS3-1 detector is powered directly via the iNELS BUS installation (nominal 27 V DC) or DALI BUS (nominal 16 V DC).
- The unit can be configured via iNELS3 Designer & Manager software, which, amongst other things it is possible to:
- Set the desired functions according to the detected ilumination.
- The sensing range is 1-100 000 lux.
- The DLS3-1 unit is supplied in IP65 and so can be installed in the outdoor environment.

Connection



IBWL3-xxB-SL | iNELS BUS wireless link



EAN code:
IBWL3-02-SL: 8595188193689
IBWL3-20-SL: 8595188193993

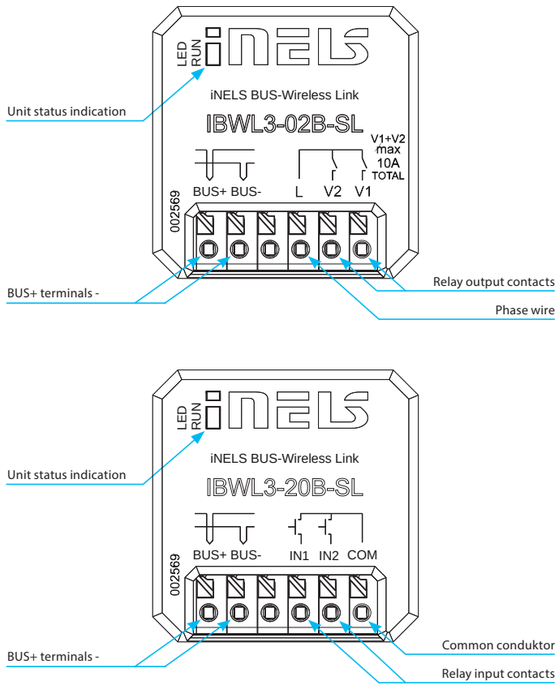
- The IBWL3-xx module enables seamless integration of iNELS wireless devices (such as controllers and detectors) with the wired iNELS BUS system, enhancing control and flexibility.
- The IBWL3-XX expands system capabilities by enabling wireless devices to trigger events and interact with other BUS elements, making it ideal for smart home and building automation.
- Two options available:

  IBWL3-02B-SL: Supports up to 8 wireless devices and includes 2 built-in relays for direct control of wired components.

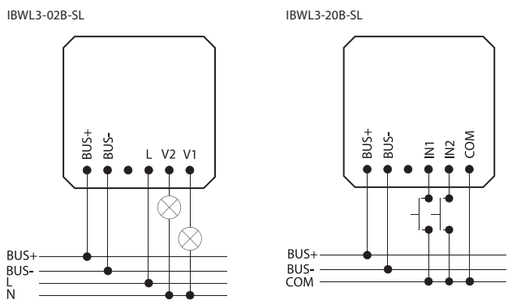
  IBWL3-20B-SL: Supports up to 8 wireless devices and features 2 dry contact inputs for external devices.
- Wireless devices are paired using unique RF addresses through the iNELS Design Manager (iDM3), allowing the control unit (CU3-XX) to recognize and create logic with BUS system elements.
- Each IBWL3 module can connect up to 8 wireless devices.
- The module is housed in a compact box design and powered directly by the 27V iNELS BUS, ensuring simple installation and a sleek, unified look.

Technical parameters	IBWL3-02B-SL	IBWL3-20B-SL
Inputs		
Input:	-	2xswitching or expanding against GND (-)
Max. pulse reading frequency:	-	20 Hz
Output		
Number of contacts:	2xswitching	-
Rated current:	8 A / AC1	-
Switching power:	2000 VA / AC1	-
Peak current:	Ipeak a<110A 300us / max. input capacity 125 uF	-
Switching voltage:	250 V AC1	-
Mechanical service life:	$1x10^7$	-
Electrical service life (AC1):	$1x10^5$	-
Communications		
RF		
Wireless:	max. 8 addresses can be assigned	
Communication Protocol:	RFIO2	
Frequency:	866–922 MHz (viz str. 81)	
Range:	in open space up to 200 m	
BUS		
Installation bus	BUS	
Unit status indication	green LED RUN	
Power supply		
Supply voltage tolerance:	27 V DC, -20/+10 %	
Power dissipation:	max. 1 W	
Rated current:	25 mA (at 27 V DC), from bus the BUS	
Connecting		
Terminal block:	screwless terminals	
Connection wire cross section (mm^2):	0.2-1.5 solid/flexible	
Other data		
Humidity:	max. 80 %	
Operating temperature:	-20 .. +55 °C	
Storage temperature:	-30 .. +70 °C	
Protection:	IP40	
Overvoltage Category:	II.	
Contamination degree:	2	
Operating position:	any	
Installation:	free at lead-in wires	
Design:	box SL	
Dimensions and weight		
Dimensions:	43 x 44 x 22 mm	
Weight:	33 g	23 g
Related standards:	EN 63044-1	

Device description



Connection



ADC3-60M | Analog-to-digital converter, 6 inputs

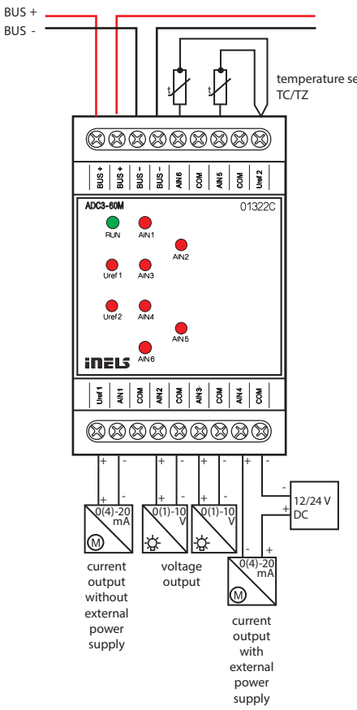
EAN code
ADC3-60M: 8595188133012
Order Code: 3301

- ADC3-60M is an analog-to-digital converter and is equipped with 6 analog inputs.
- Analog inputs serve to connect temperature sensors or analog sensors that generates current or voltage signal.
- The analog inputs have a resolution of a 14-bit AD converter.
- The analog inputs have a common terminal COM.
- Analog inputs/ouputs are configurable in iDM3 independently as voltage (U) or current (I) or temperature.
- We recommend Clima sensor as a meteo station. There are four types: five to eight outputs. The top series offers measuring of: rainfall, brightness, twilight, speed of wind, temperature and relative humidity.
- The red LEDs in the front panel indicate exceeding the range, interruption of a sensor or overload of Uref output.
- The temperature inputs at the top of the terminal are used to connect the following temperature sensors: TC, TZ.
- ADC3-60M in 3-MODULE version is designed for mounting into a switchboard, on a DIN rail EN60715.

Technical parameters	ADC3-60M
Input	
Analog inputs:	6x voltage, current or temperature input
Number of inputs:	6
Galv. separation from inner circuits:	no
Diagnostic:	indication (exceeding the range, interruption of a sensor or overload of Uref output) by the applicable red LED
Common terminal:	COM
Converter resolution:	14 bits
Input resistance - for voltage ranges: - for current ranges:	 approx. 150 kΩ 100 Ω
Types of inputs/measuring ranges*:	**Voltage** (U): 0 ÷ +10 V (U) ; 0 ÷ +2 V (U) **Current** (I) : 0 ÷ +20 mA (I) ; 4 ÷ +20 mA (I) **temperature**: input at ext. temperature sensor TC, TZ see accessories/according to used sensor from -40 °C to 125 °C
Outputs of the Uref1 and Uref2 voltage	
Voltage**/current of Uref1:	10 or 15 V DC/100 mA
Voltage**/current of Uref2:	10 V DC/20 mA
Communication	
Installation BUS:	BUS
Unit status indication:	green LED RUN
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 1 W
Rated current:	100 mA (at 27 V DC), from BUS
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into a switchboard rail to DIN EN 60715
Design:	3-MODULE
Dimensions and weight	
Dimensions:	90 x 52 x 65 mm
Weight:	112 g
Standards:	EN 63044-1

* selectable for each input/output individually by configuration in the user program iDM3. Min. supply voltage 24 V DC must be respected when configuring 15 V DC and 100 mA consumption.
** according to load Uref output.

Connection



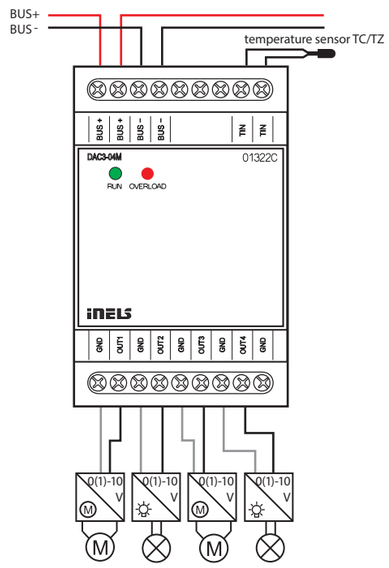
DAC3-04M | Digital-to-analog converter, 4 outputs

EAN code
DAC3-04M: 8595188132565
Order Code: 3256

- DAC3-04M is a converter from a digital signal to an analog voltage signal.
- The converter generates 4 analog voltage signals, which can be operated, according to type of controlled device, in a range 0-10 V or 1-10 V.
- This is used for regulating and controlling devices that may be controlled by this signal (dimmable ballasts of fluorescent lamps and other types of light sources - e.g. LED panels from the assortment of ELKO Lighting, dimming actuator for LED and RGB strips RFDA-73M/RGB, thermo drives, servo drives, elements for measuring and regulation and others).
- Range of output voltage is adjustable in iDM3.
- Converter is equipped with a temperature input for connecting a 2-wire external sensor TC/TZ (see accessories).
- DAC3-04M in 3-MODULE version is designed for mounting into a switchboard, on DIN rail EN60715.

Technical parameters	DAC3-04M
Input	
Temperature measuring:	yes, input for external temperature sensor TC/TZ
Range/accuracy of temp. measuring:	-20 to +120 °C; 0.5 °C from the range
Outputs	
Analog voltage output/rated current:	4x 0(1)-10 V/10 mA
Indication of output overload:	red LED OVERLOAD
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 1 W
Rated current:	50 mA (at 27 V DC), from BUS
Connection	
Terminal:	max. 2.5 mm²/1.5 mm² with sleeve
Operating conditions	
Air humidity:	max. 80 %
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE
Dimensions and weight	
Dimensions:	90 x 52 x 65 mm
Weight:	108 g
Standards:	EN 63044-1

Connection



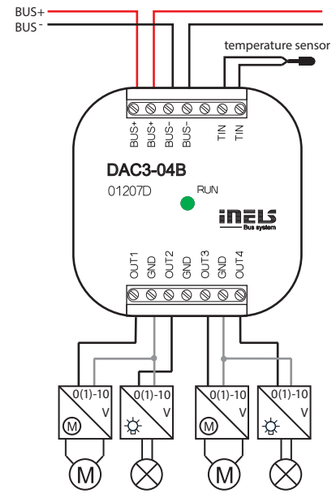
DAC3-04B | Digital-analog converter

EAN code
DAC3-04B: 8595188132572

- DAC3-04B is converter of a digital signal to an analog voltage signal.
- The converter generates 4 analog voltage signals, which can be regulated according to type of controlled device, in a range 0-10 V or 1-10 V.
- This is used for regulating and controlling devices that may be controlled by this signal (dimmable ballasts of fluorescent lamps and other types of light sources - e.g. LED panels from the assortment of ELKO Lighting, dimming actuator for LED and RGB strips RFDA-73M/RGB, thermostatic heads, servo drives, elements for measuring and regulation and others).
- Range of output voltage is adjustable in iDM3.
- DAC3-04B is equipped with a temperature input for connecting a 2-wire external sensor TC / TZ.
- DAC3-04B in version B is designed for mounting into an installation box.

Technical parameters	DAC3-04B
Inputs	
Temperature measuring:	YES, input for external temperature sensor TC/TZ
Range / accuracy of temp. measuring:	-20 to +120°C; 0.5°C from the range
Outputs	
Analog voltage output / rated current:	4x 0(1)-10 V/10 mA
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Supply voltage / tolerance:	27 V DC, -20 / +10 %
Dissipated power:	max. 1 W
Rated current:	50 mA (at 27V DC), from BUS
Connection	
Terminal:	0.5 - 1 mm²
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP30
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into installation box
Dimensions and weight	
Dimensions:	49 x 49 x 13 mm
Weight:	27 g

Connection



SA3-01B, SA3-02B | Switching actuator, 1 channel and 2 channels

EAN code
SA3-01B: 8595188132350
SA3-02B: 8595188132367

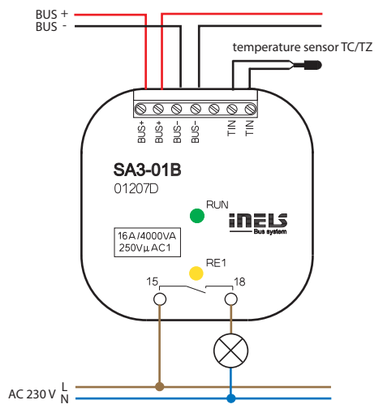
Order Code:
SA3-01B: 3235
SA3-02B: 3236

- Actuators are designed for switching of one (SA3-01B), respectively two (SA3-02B) of various appliances and loads by relay outputs (potentialless contacts).
- SA3-01B contains 1 relay with switching potentialless contact with max. load 16 A/4000 VA/AC1.
- SA3-02B contains 2 relays with switching potentialless contacts with max. load 8 A/2000 VA/AC1.
- Output contacts are separately controllable and addressable.
- Thanks to changeover contacts, the SA3-02B actuator can used to control a 230 V drive (such as blinds, shutters or awnings), where as by proper bridging of contacts, it is possible to secure locking hardware options while switching on phase two outputs.
- Actuators are equipped with a temperature input for connecting an external two-wire temperature sensor TC/TZ (see accessories).
- LED on front panel signalizes state of each output.
- SA3 is normally supplied in the option $AgSnO_2$ contact material.
- SA3-01B, SA3-02B are designed for mounting into the installation box.

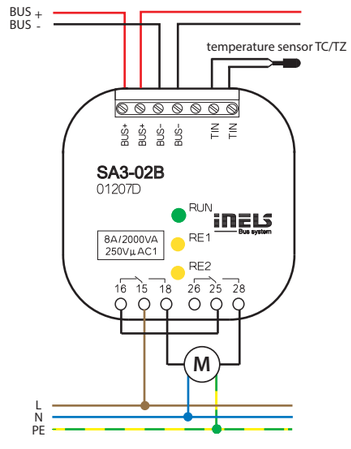
Technical parameters	SA3-01B	SA3-02B
Inputs		
Temperature measuring:	Yes, input for external thermo sensor TC, TZ	
Scope and accuracy of tem.meas.:	-20 to +120°C; 0.5°C from the range	
Outputs		
Output:	1x NO 16 A	2x CO 8 A
Switching voltage:	250 V AC, 24 V DC	
Switched load:	4000 VA/AC1, 384 W/DC	2000 VA/AC1, 192 W/DC
Surge current:	30 A; max. 4 s. when repeating 10%	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)	
Insulation voltage between relay outputs RE1-RE2:	x	basic isolation (Cat. II surges by EN 60664-1)
Minimal switching current:	100 mA/5 V	
Switching frequency/no load:	1200 min^{-1}	300 min^{-1}
Switching frequency/rated load:	6 min^{-1}	15 min^{-1}
Mechanical lifetime:	3x 10^7	1x 10^7
Electrical lifetime for AC1:	0.7x 10^5	1x 10^5
Output indication:	yellow LED	2x yellow LED
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Dissipated power:	max. 4 W	
Rated current:	30 mA (at 27 V DC)	50 mA (at 27 V DC)
Status indication unit:	green LED RUN	
Connection		
Data terminals:	terminal, 0.5 - 1 mm^2	
Power outputs:	2x conduct. CY, Ø 2.5 mm^2	6x conduct. CY, Ø 0.75 mm^2
Operating conditions		
Operating temperature:	-20 to +55 °C	
Storage temperature:	-30 to +70 °C	
Protection degree:	IP30	
Overvoltage category:	II.	
Pollution degree:	2	
Operating position:	any	
Installation:	into installation box	
Dimensions and weight		
Dimensions:	49 x 49 x 21 mm	
Weight:	50 g	50 g
Standards:	EN 63044-1	

Connection

SA3-01B



SA3-02B



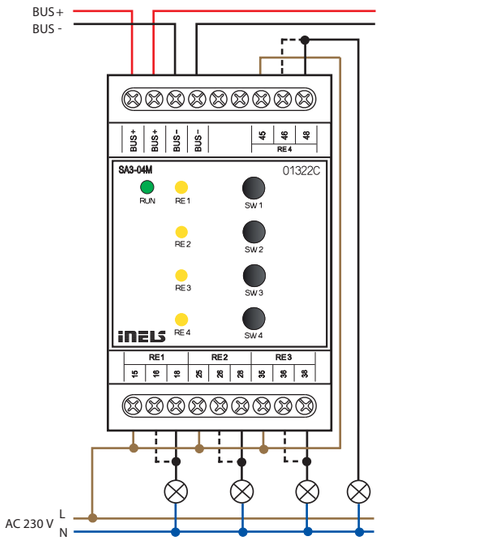
SA3-04M | Switching actuator, 4 channels

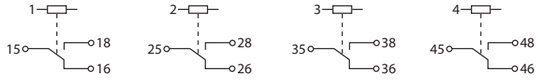
EAN code
SA3-04M: 8595188132381
Order Code: 3238

- SA3-04M is a switching actuator containing 4 independent relays with changeover potential-free contacts.
- Maximum load per contact is 16 A/4000 VA/AC1.
- Each of the 4 outputs contacts are individually controllable and addressable.
- All four relays are individually decorated input terminals, and therefore can switch various independent potentials.
- The actuator is designed for switching 4 various appliances or loads by relay outputs (potential free contacts).
- Thanks to changeover contacts, it can be used to control up to two drives 230 V power (such as blinds, shutters or awnings) with appropriate bridging, the contacts can secure hardware blocking the possibility of simultaneous switching of the phase on both outputs, see example of connection.
- LEDs on the front panel signal the status of each output.
- Contact status of each relay can be changed separately and manually by control buttons on a front panel.
- Switching actuators SA3 is normally supplied in the option $AgSnO_2$ contact material.
- SA3-04M in 3-MODULE version is designed for mounting into a switchboard, on DIN rail EN60715.

Technical parameters	SA3-04M
Outputs	
Output:	4x changeover 16 A/AC1
Switching voltage:	250 V AC, 24 V DC
Switching output:	4000 VA/AC1, 384 W/DC
Surge current:	30 A; max. 4 s. at 10% duty cycle
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs RE1-3 and RE4:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs RE1-3:	basic insulated (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
Min. switched current:	100 mA
Switching frequency/no load:	1200 min^{-1}
Switching frequency/rated load:	6 min^{-1}
Mechanical life:	3x 10^7
Electrical life AC1:	0.7x 10^5
Output indication:	4x yellow LED
Communication	
Installation BUS:	BUS
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 4 W
Rated current:	70 mA (at 27 V DC), from BUS
Status indication unit:	green LED RUN
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Air humidity:	max. 80 %
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE
Dimensions and weight	
Dimensions:	90 x 52 x 65 mm
Weight:	164 g
Standards:	EN 63044-1

Connection





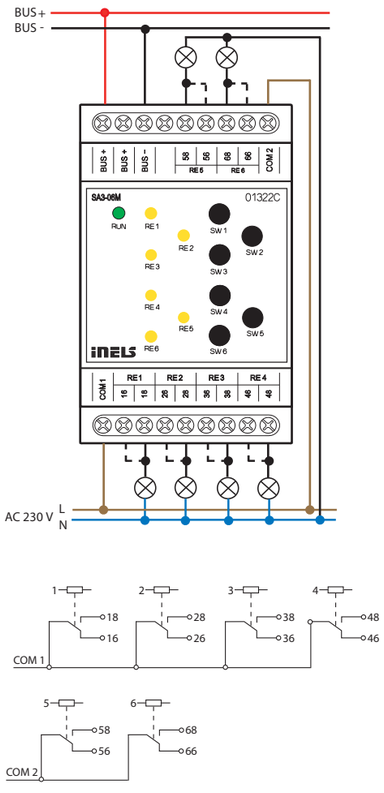
SA3-06M | Switching actuator, 6 channels

EAN code
SA3-06M: 8595188132879
Order Code: 3287

- The actuator is designed for switching up to six various appliances and loads with potentialless contact.
- SA3-06M is a switching actuator contains 6 independent relays with changeover potentialless contacts.
- Maximum load per contact is 8 A/2000 VA/AC1.
- Each of six output contacts are individually controllable and addressable.
- The relays are divided into two groups, the group of four relays on the bottom terminal switches the common potential, a pair of relays on top of the terminal switches the second common potential.
- The actuator is suitable for operating discontinuously controlled thermo drives in the distributor of floor heating.
- LEDs on the front panel signals the status of each output.
- Contact status of each relay can be changed separately and manually by control buttons on a front panel.
- SA3-06M is normally supplied in the option $AgSnO_2$ contact material.
- SA3-06M in 3-MODULE version is designed for mounting into a switchboard/DIN rail EN60715.

Technical parameters	SA3-06M
Outputs	
Output:	6x changeover 8 A/AC1
Switching voltage:	250 V AC, 24 V DC
Switching output:	2000 VA/AC1, 192 W/DC
Surge current:	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs COM1 and COM2:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between individual relay outputs:	basic insulated (Cat. II surges by EN 60664-1)
Isolates voltage open relay contact:	1 kV
Max. current terminals COM1 and COM2:	16 A
Min. switched current:	100 mA/5 V DC
Switching frequency/no load:	300 min^{-1}
Switching frequency/rated load:	15 min^{-1}
Mechanical life:	2x 10^7
Electrical life AC1:	5x 10^4
Output indication:	6x yellow LED
Communication	
Installation BUS:	BUS
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 9 W
Rated current:	60 mA (at 27 V DC), from BUS
Status indication unit:	green LED RUN
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Air humidity:	max. 80%
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	3-MODULE
Dimensions and weight	
Dimensions:	90 x 52 x 65 mm
Weight:	160 g
Standards:	EN 63044-1

Connection



SA3-014M | Switching actuator, 14 channels

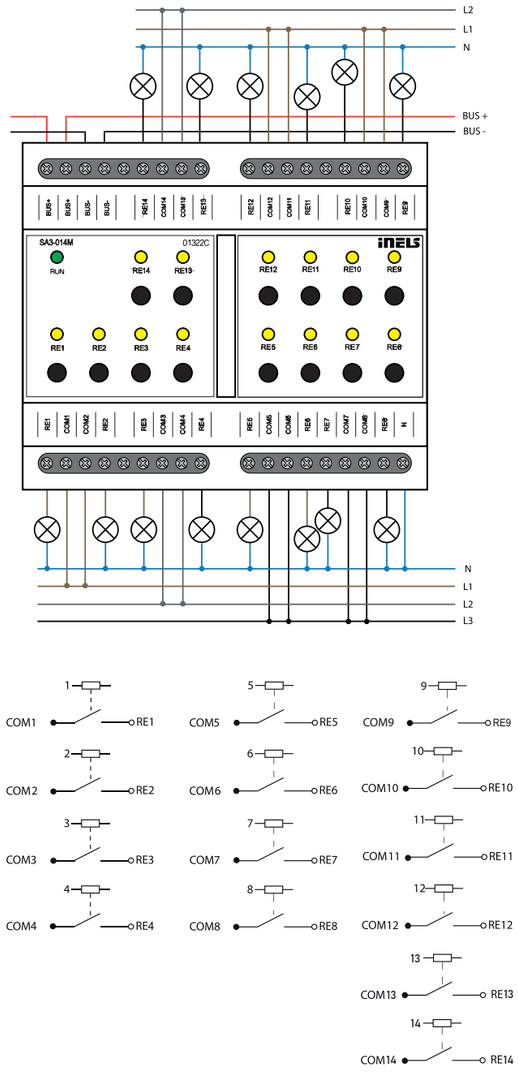
EAN code
SA3-014M: 8595188191241
Order Code: 9124

- SA3-014M is a switching actuator containing 14 independent relays with NO potentialless contacts, with the fact that switches the same potential. Maximal loadability of contacts is 10A/2500 VA/AC1.
- Each of the fourteen output contacts are individually controllable and addressable.
- Actuator SA3-014M is powered by an bus voltage 27V DC.
- The unit's status is indicated by the green RUN LED on the front panel
  - if the bus supply is connected, but there is no communication via BUS with master, the LED RUN is on continuously.
  - if the bus voltage is connected and the unit communicates by BUS, the LED RUN flashes.
- Contact status of each relay can be changed separately and manually by control buttons on a front panel.
- The unit has synchronized closing and opening of the relay in the zero-voltage of the sinusoidal waveform. The sync inputs are COM 1, 3, 5, 7, 9, 11 and 13 against the N terminal.
- SA3-014M is normally supplied in the option AgSnO2 contact material. SA3-014M in design 6-MODULE is designed to be mounted into a switchboard, on to DIN rail EN60715.
- The status of the output contacts is indicated by the LED:
  - when the output is changed, the corresponding LED lights up.

Technical parameters	SA3-014M
Outputs	
Output:	14x switching 10 A/AC1
Switched voltage:	250 V AC, 30 V DC
Switched output:	2500 VA/AC, 150 W/DC
Protection:	10A (maximum output) B class circuit breaker
Peak current:	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs COM 1,2 COM 3,4 COM 5,6 COM 7,8 COM 9,10 COM 11,12:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
Max. current of one common terminal:	12 A
Minimal switched current:	100 mA/10 V DC
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1x 10^7
Electrical life AC1:	1x 10^5
Mains voltage detection:	yes (relay switching in zero)
Output indication:	14x yellow LED
Control:	14x buttons front panel
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN - status led for relay
Power supply	
Voltage of BUS/tolerance/ nominal current:	27 V DC, -20/+10 %, 150 mA
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	310 g
Standards:	EN 63044-1

Note:
For the protection of relay it is recommended to use protection device:
10A (maximum output) B class circuit breaker.

Connection



SA3-014M/E | Switching actuator, 14 channels

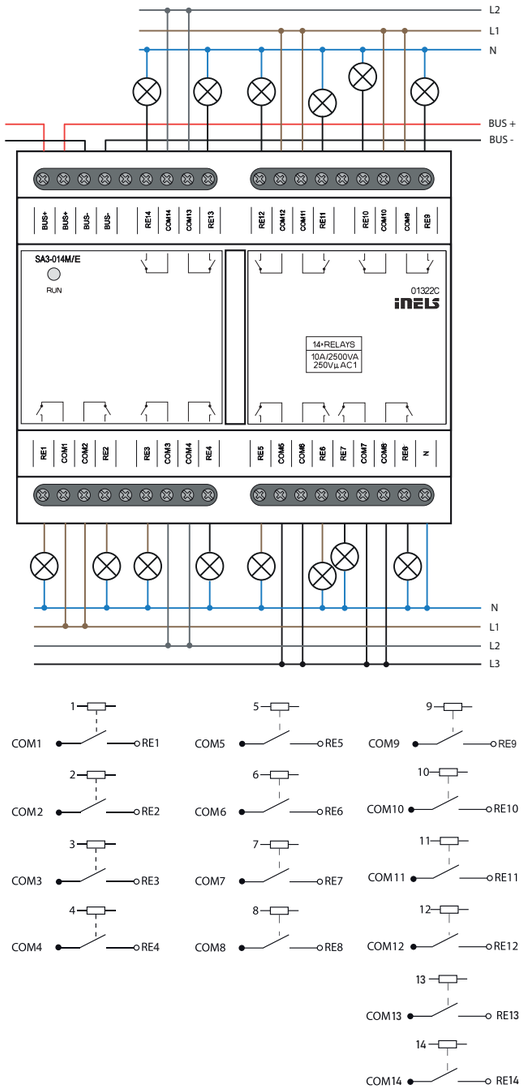
EAN code
SA3-014M/E: 8595188189187
Order Code: 8918

- SA3-014M/E is a switching actuator containing 14 independent relays with NO potentialless contacts, with the fact that switches the same potential. Maximal loadability of contacts is 10A/2500 VA/AC1.
- Each of the fourteen output contacts are individually controllable and addressable. Actuator SA3-014M/E is powered by an bus voltage 27V DC.
- The unit's status is indicated by the green RUN LED on the front panel - if the bus supply is connected, but there is no communication via BUS with master, the LED RUN is on continuously.
  - if the bus voltage is connected and the unit communicates by BUS, the LED RUN flashes.
- Contact status of each relay can be changed separately and manually by control buttons on a front panel.
- The unit has synchronized closing and opening of the relay in the zero-voltage of the sinusoidal waveform. The sync inputs are COM 1, 3, 5, 7, 9, 11 and 13 against the N terminal.
- SA3-014M/E is normally supplied in the option AgSnO2 contact material. SA3-014M/E in design 6-MODULE is designed to be mounted into a switchboard, on to DIN rail EN60715.
- SA3-014M/E is an economic option without manual control buttons on the front panel and status LEDs for the relay output. (possibility to control via iDM software).

Technical parameters	SA3-014M/E
Outputs	
Output:	14x switching 10 A/AC1
Switched voltage:	250 V AC, 30 V DC
Switched output:	2500 VA/AC, 150 W/DC
Protection:	10A (maximum output) B class circuit breaker
Peak current:	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs COM 1,2 COM 3,4 COM 5,6 COM 7,8 COM 9,10 COM 11,12:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
Max. current of one common terminal:	12 A
Minimal switched current:	100 mA/10 V DC
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1x 10^7
Electrical life AC1:	1x 10^5
Mains voltage detection:	yes (relay switching in zero)
Output indication:	-
Control:	
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Voltage of BUS/tolerance/ nominal current:	27 V DC, -20/+10 %, 150 mA
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	310 g
Standards:	EN 63044-1

Note:
For the protection of relay it is recommended to use protection device:
10A (maximum output) B class circuit breaker.

Connection



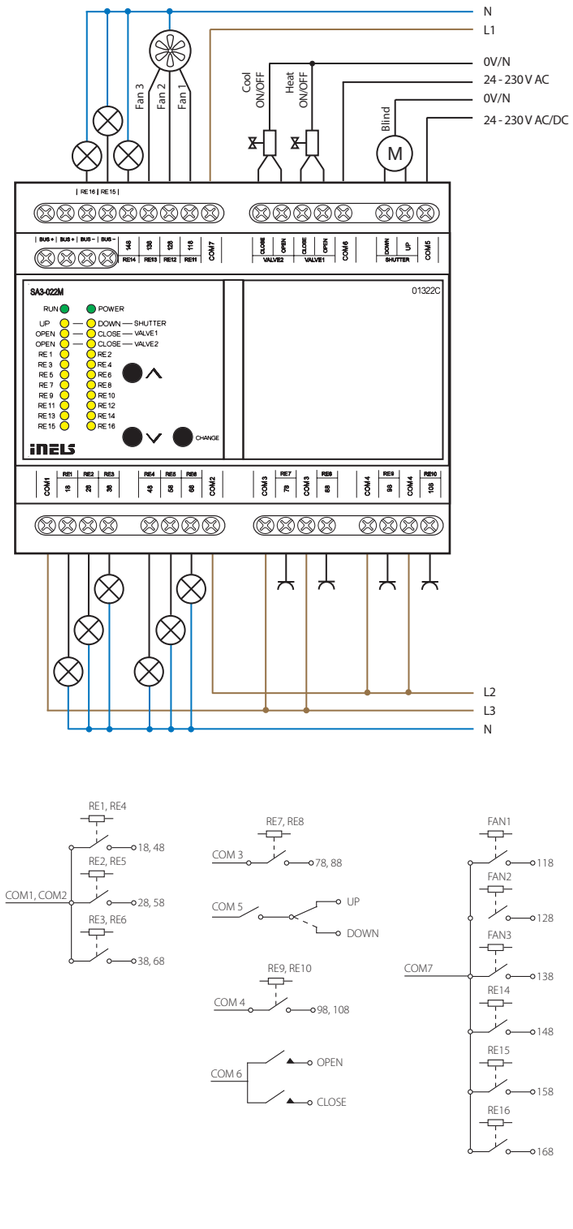
SA3-022M | Switching actuator, 22 channels

EAN code
SA3-022M: 8595188135269
Order Code: 3526

- Equipped with 22 relay outputs (of which 1x changeover contact – roller blinds, blinds).
- Switch lighting and socket circuits (6 A and 10 A relay) with common potential at the "COMx" terminal.
- Control of roller blinds, blinds (24 - 230 V AC/DC).
- Relay control of the fan coil unit - heating/cooling, 3 fan speeds (24 - 230 V AC/DC).
- Connection to BUS, communication with CU3.
- The front panel LEDs indicate the status of each output.
- SA3-022M in design 6-MODULE is designed to be mounted into a switchboard, onto DIN rail EN60715.

Technical parameters	SA3-022M
Outputs	
Output indication:	yellow LED
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Insulation between COM potentials:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
SSR (Electronic Relay):	4x switching (VALVE1–VALVE2)
Switching voltage:	20 - 240 V AC
Switching output:	480 VA
Surge current:	20 A, t ≤ 16 ms
Relay 6A:	12x switching (RE1 - RE6, RE11 - RE16), 1x HW block changeover (OUT1, OUT2)
Switching voltage:	250 V AC, 24 V DC
Switching output:	1500 VA/AC1; 300 VA/AC15; 180 W/DC, AC3
Minimum switching load:	500 mW (12 V/10 mA)
Mechanical life:	10x10^6
Electrical life AC1:	6x10^4
Relay 10A:	4x switching (RE7 - RE10)
Switching voltage:	250 V AC, 24 V DC
Switching output:	2500 VA/AC1, 240 W/DC
Surge current:	30 A max. 4 s at 10%
Minimal switched current:	100 mA
Switching frequency without load:	1200 min^{-1}
Switching frequency with rated load:	6 min^{-1}
Mechanical life:	3x 10^7
Electrical life AC1:	0.7x 10^5
Communication	
Installation BUS:	BUS
Unit status indication:	green LED POWER
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 3 W
Rated current:	100 mA (at 27 V DC), from BUS
Power status indication:	green LED RUN
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	307 g
Standards:	EN 63044-1

Connection



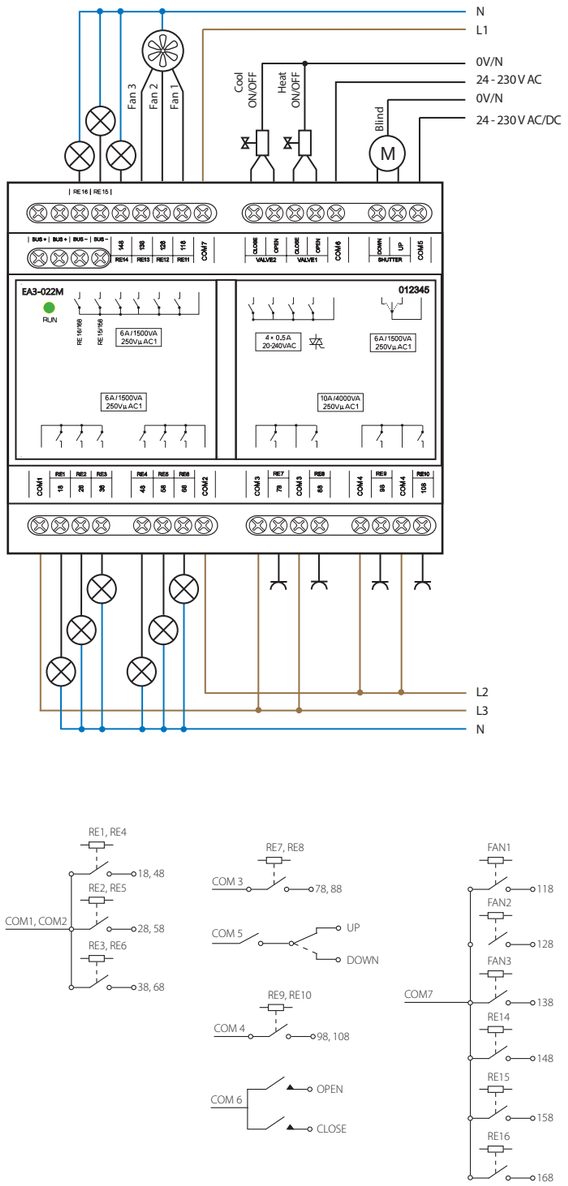
EA3-022M | Switching actuator without controls and indicator, 22 channels

EAN code
EA3-022M: 8595188135238
Order Code: 3523

- Equipped with 22 relay outputs (of which 1x changeover contact – roller blinds, blinds).
- Switch lighting and socket circuits (6 A and 10 A relay) with common potential at the "COMx" terminal.
- Control of roller blinds, blinds (24 - 230 V AC/DC).
- Relay control of the fan coil unit - heating/cooling, 3 fan speeds (24 - 230 V AC/DC).
- Connection to BUS, communication with CU3.
- EA3-022M in design 6-MODULE is designed to be mounted into a switchboard, onto DIN rail EN60715.

Technical parameters	EA3-022M
Outputs	
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Insulation between COM potentials:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
SSR (Electronic Relay):	4x switching (VALVE1–VALVE2)
Switching voltage:	20 - 240 V AC
Switching output:	480 VA
Surge current:	20 A, t ≤ 16 ms
Relay 6 A:	12x switching (RE1 - RE6, RE11 - RE16), 1x HW block changeover (OUT1, OUT2)
Switching voltage:	250 V AC, 24 V DC
Switching output:	1500 VA/AC1; 300 VA/AC15; 180 W/DC, AC3
Minimum switching load:	500 mW (12 V/10 mA)
Mechanical life:	$10x10^6$
Electrical life AC1:	$6x10^4$
Relay 10 A:	4x switching (RE7 - RE10)
Switching voltage:	250 V AC, 24 V DC
Switching output:	2500 VA/AC1, 240 W/DC
Surge current:	30 A max. 4 s at 10 %
Minimal switched current:	100 mA
Switching frequency without load:	1200 min^{-1}
Switching frequency with rated load:	6 min^{-1}
Mechanical life:	$3x\ 10^7$
Electrical life AC1:	$0.7x\ 10^5$
Communication	
Installation BUS:	BUS
Unit status indication:	green LED RUN
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 2 W
Rated current:	100 mA (at 27 V DC), from BUS
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	337 g
Standards:	EN 63044-1

Connection



JA3-014M | Shutter actuator, 14 channels

N

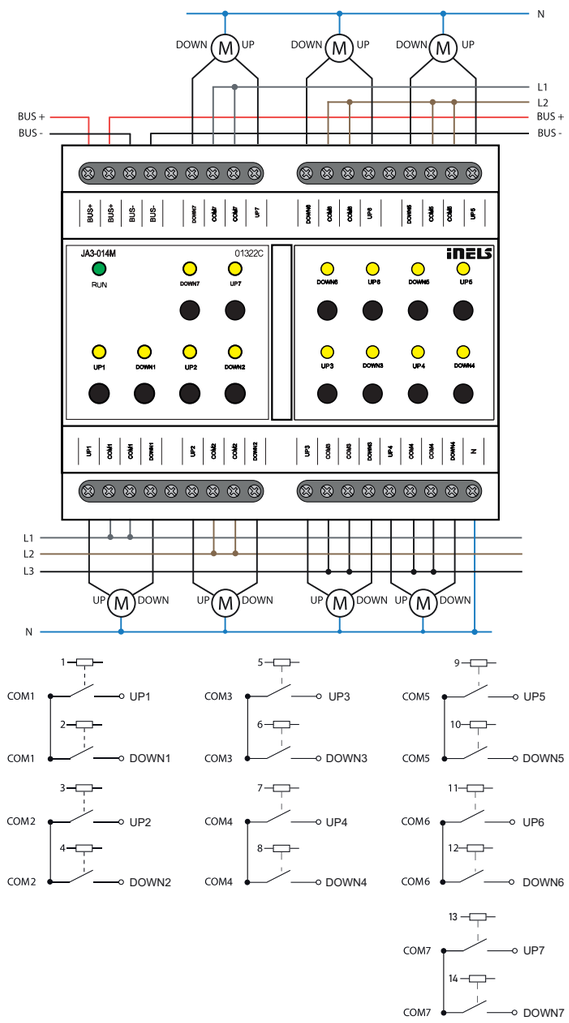
EAN code
JA3-014M: 8595188191258
Order Code: 9125

- JA3-014M is an actuator designed for controlling rollers, shutters, blinds, awnings, garage doors, entrance gates, etc.
- It controls electric drives that are controlled in two directions and have a built-in limit switch.
- The unit's status is indicated by the green RUN LED on the front panel
  - if the BUS voltage is connected, but there is no communication via BUS with master, the LED RUN is on continuously.
  - if the bus voltage is connected and the unit communicates by BUS, the LED RUN flashes.
- The status of the output contacts is indicated by the Up/ Down LED:
  - when the blind/roller blind is moving up/down, the corresponding LED lights up.
  - if the number of switching operations per minute is exceeded, the corresponding LED flashes.
- Contact status of each relay JA3-014M can be changed separately and manually by control buttons on a front panel.
- The software blocking of output relay contacts can be secure using the iNELS Design Manager software.
- JA3-014M is normally supplied in the option AgSnO2 contact material.
- JA3-014M in 6-MODULE version is designed for mounting into a switchboard on DIN rail EN60715.
- The unit has synchronized closing and opening of the relay in the zero voltage of the sinusoidal waveform. The sync inputs are COM 1, 2, 3, 4, 5, 6 and 7 against the N terminal.

Technical parameters	JA3-014M
Outputs	
Output:	14x switching 0.5 A/AC15
Switched voltage:	250 V AC, 30 V DC
Switched output:	125 VA/AC15
Protection:	10A (maximum output) B class circuit breaker
Peak current:	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs COM 1,2 COM 3,4 COM 5,6 COM 7,8 COM 9,10 COM 11,12:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
Max. current of one common terminal:	12 A
Minimal switched current:	100 mA/10 V DC
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	$1x\ 10^7$
Electrical life AC1:	$1x\ 10^5$
Mains voltage detection:	yes (relay switching in zero)
Output indication:	14x yellow LED
Control:	14x buttons front panel
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN - status led for relay
Power supply	
Voltage of BUS/tolerance/ nominal current:	27 V DC, -20/+10 %, 150 mA
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	310 g
Standards:	EN 63044-1

Note:
For the protection of relay it is recommended to use protection device:
10A (maximum output) B class circuit breaker.

Connection



JA3-014M/E | Shutter actuator, 14 channels

EAN code
JA3-014M/E: 8595188189491

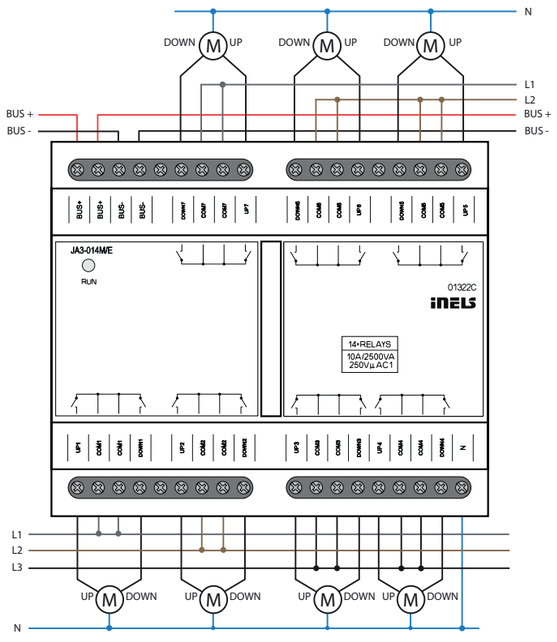
Order Code: 8949

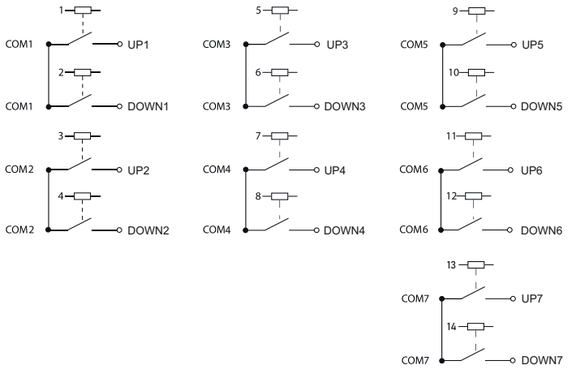
- JA3-014M/E is an actuator designed for controlling rollers, shutters, blinds, awnings, garage doors, entrance gates, etc.
- It controls electric drives that are controlled in two directions and have a built-in limit switch.
- The unit's status is indicated by the green RUN LED on the front panel
  - if the BUS voltage is connected, but there is no communication via BUS with master, the LED RUN is on continuously.
  - if the bus voltage is connected and the unit communicates by BUS, the LED RUN flashes.
- The software blocking of output relay contacts can be secure using the iNELS Design Manager software.
- JA3-014M/E is normally supplied in the option AgSnO2 contact material.
- JA3-014M/E in 6-MODULE version is designed for mounting into a switchboard on DIN rail EN60715.
- JA3-014M/E is an economic option without manual control buttons on the front panel and status LEDs for the relay output. (possibility to control via iDM software).
- The unit has synchronized closing and opening of the relay in the zero voltage of the sinusoidal waveform. The sync inputs are COM 1, 2, 3, 4, 5, 6 and 7 against the N terminal.

Technical parameters	JA3-014M/E
Outputs	
Output:	14x switching 0.5 A/AC15
Switched voltage:	250 V AC, 30 V DC
Switched output:	125 VA/AC15
Protection:	10A (maximum output) B class circuit breaker
Peak current:	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs COM 1,2 COM 3,4 COM 5,6 COM 7,8 COM 9,10 COM 11,12:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
Max. current of one common terminal:	12 A
Minimal switched current:	100 mA/10 V DC
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1x 10^7
Electrical life AC1:	1x 10^5
Mains voltage detection:	yes (relay switching in zero)
Output indication:	-
Control:	
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Voltage of BUS/tolerance/ nominal current:	27 V DC, -20/+10 %, 150 mA
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	310 g
Standards:	EN 63044-1

Note:
For the protection of relay it is recommended to use protection device:
10A (maximum output) B class circuit breaker.

Connection





DA3-22M | Universal dimming actuator, 2 channels

EAN code
DA3-22M: 8595188132626
DA3-22M/120V: 8595188133036

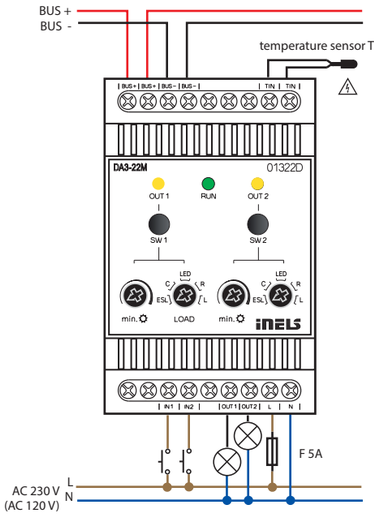
Order Code:
DA3-22M: 3262
DA3-22M/120V: 3303

- DA3-22M is a universal dimming 2-fold actuator enabling control of brightness intensity of dimmable light sources of the type ESL, LED and RLC with power supply 230 V.
- DA3-22M has two MOSFET controlled outputs 230 V AC, maximum load is 2x 400 VA.
- Option of connecting an external temperature sensor.
- Each output channel is independently controllable and addressable.
- Type of light source is set by a switch on the front panel.
- By setting the min. brightness potentiometer on the front panel, flashing of different types of light sources is eliminated.
- DA3-22M is equipped with two inputs 230 V AC, which can be controlled by mechanical switches (buttons, relays). Inputs are galvanically connected to potential L, which is permanently at the terminals IN1 and IN2.
- By clicking on buttons on the front panel you can manually switch on or off the corresponding output.
- Electronic overcurrent and thermal protection - switch off output in case of overload short circuit and overheating.
- The power supply (potential L) must be protected by a protective element corresponding to the power input of the connected load, e.g. a safety fuse.
- During installation, it is necessary to leave on each side of the actuator at least half the module space for better cooling.
- DA3-22M in 3-MODULE version is designed for mounting into a switchboard on DIN rail EN60715.

Technical parameters	DA3-22M	DA3-22M/120V
Inputs		
Input: ⚠	2x inputs, switching potential L*	
Temperature measuring: ⚠	YES, input for external thermo sensor TC/TZ	
Scope and accuracy of temp. measurement:	-20 to +120 °C; 0.5 °C from the range	
Number of control buttons:	2x buttons 4x potenciometers on front panel	
Outputs		
Output:	2x contactless outputs, 2x MOSFET	
Load type:	resistive, inductive, capacitive**, LED, ESL	
Isolation BUS separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)	
Isolation voltage between particular power:	max. 500 V AC	
Minimal controlled load:	10 VA	
Maximal controlled load:	400 VA for each channel	200 VA for each channel
Output indication ON/OFF:	2x yellow LED	
Device protection:	thermal/short-term overload/ long-term overload	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage by BUS/ tolerance:	27 V DC, -20/+10 %	
Rated current:	5 mA (at 27 V DC), from BUS	
Status indication unit:	green LED RUN	
Supply voltage for power section/tolerance:	AC 230 V (50 Hz), -15/+10 %	AC 120 V (60 Hz), -15/+10 %
Dissipated power:	max. 13 W	max. 7.5 W
Connection		
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve	
Operating conditions		
Air humidity:	max. 80 %	
Operating temperature:	-20 to +35 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20 device, IP40 mounting in the switchboard	
Overvoltage category:	II.	
Pollution degree:	2	
Operating position:	vertical	
Installation:	switchboard on DIN rail EN 60715	
Design:	3-MODULE	
Dimensions and weight		
Dimensions:	90 x 52 x 65 mm	
Weight:	170 g	
Standards:	EN 63044-1	

* The inputs are not galvanically isolated from the supply voltage.
** **Attention:** It is not allowed to connect loads of inductive and capacitive character, at the same time.
⚠ Input is connected to the mains voltage potential.

Connection



Types of connectable loads

type of source	symbol	description
R resistive	HAL. 230 V	ordinary light bulb, halogen lamp
L inductive	HAL. 12-24 V	coiled transformer for low-voltage halogen lamps
C capacitive		electronic transformer for low-voltage halogen lamps
LED		LED lamps and LED light sources, 230 V
ESL		dimmable energy-saving fluorescent tubes

DA3-66M | Dimming actuator, 6 channels

EAN code
DA3-66M /230: 8595188182065
DA3-66M /120: 8595188174459

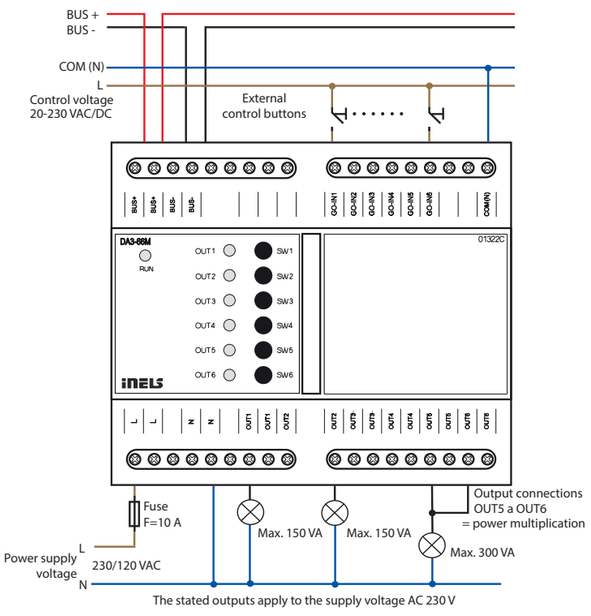
Order Code:
DA3-66M /230: 8206
DA3-66M /120: 7445

- DA3-66M is a universal dimming 6-channels actuator, which is used to control the brightness of dimmable light sources such as ESL, LED and RLC with 230 V power supply.
- The DA3-66M has 6 semiconductor controlled 230 V AC outputs. The maximum possible load is 150 VA for each channel.
- The individual outputs of the dimmer can be connected in parallel and thus increase the maximum output load at the expense of the number of outputs.
- Each output channel is independently controllable and addressable.
- By setting min. brightness, the flickering of different types of light sources is eliminated.
- Min. brightness and type of load is performed using SW IDM.
- Use the control buttons on the front panel to manually control the output.
- The actuator is equipped with electronic overcurrent and thermal protection, which switches off the output in case of overload, short circuit, overheating.
- The dimmer has 6 galvanically separated inputs which can be used both to control the dimmer and as a binary input to the iNELS system.
- The the device supply (potential L) must be protected with a safety device corresponding to the power input of the connected load, e.g. with a quick-release fuse.
- During installation, it is necessary to leave at least half a module of free space on each side of the actuator for better cooling.
- DA3-66M is in 6-MODULE version and is intended for mounting in a switchboard on DIN rail EN60715.

Technical parameters	DA3-66M/230V	DA3-66M/120V
Outputs		
Output:	6x contactless outputs, 2x MOSFET / channel	
Load type: *	R-resistive, L-inductive, C-capacitive, LED, ESL - economical	
Minimal controlled load:	10 VA	
Maximal controlled load:	DA3-66M / 230V: 150 VA for each channel DA3-66M / 120V: 75 VA for each channel possibility of parallel connection of outputs	
Output indication ON/OFF:	6x yellow LED	
Device protection:	thermal/short-term overload/ long-term overload	
Inputs		
Wire buttons:	6x galvanically separated	
Input voltage:	20–230 AC(50–60 Hz)/DC	
Isolation voltage:	between inputs max. 230 VAC/DC (basic insulation) to all other internal circuits: reinforced insulation: overvoltage category II	
Maximum cable length:	10 m	
Glow plug connection:	no	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage by BUS/ tolerance:	27 V DC, -20/+10 %	
Rated current:	100 mA (at 27 V DC), from BUS	
Status indication unit:	green LED RUN	
Supply voltage for power section/tolerance:	AC 230 V (50-60 Hz), -15/+10 %	AC 120 V (50-60 Hz), -15/+10 %
Connection		
Terminal:	max. 2.5 mm²/1.5 mm² with sleeve	
Operating conditions		
Air humidity:	max. 80 %	
Operating temperature:	-20 to +50 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20 device, IP40 mounting in the switchboard	
Overvoltage category:	II.	
Pollution degree:	2	
Operating position:	vertical	
Installation:	switchboard on DIN rail EN 60715	
Design:	6-MODULE	
Dimensions and weight		
Dimensions:	90 x 105 x 65 mm	
Weight:	320 g	
Standards:	EN 63044-1	

* **Attention:** It is not allowed to connect loads of inductive and capacitive character, at the same time.

Connection



Types of connectable loads

type of source	symbol	description
R resistive		ordinary light bulb, halogen lamp
L inductive		coiled transformer for low-voltage halogen lamps
C capacitive		electronic transformer for low-voltage halogen lamps
LED		LED lamps and LED light sources, 230 V
ESL		dimmable energy-saving fluorescent tubes

DA3-03M/RGBW | Dimming actuator for RGBW strips

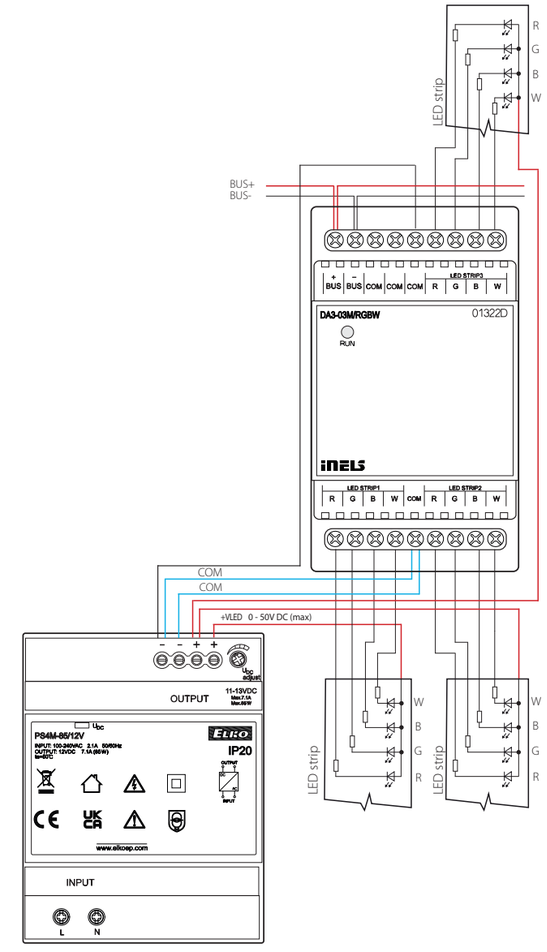
EAN code
DA3-03/RGBW: 8595188184632

Order Code: 8463

- The dimmer for LED strips is used for independent control of 12 channels, so it can be connected to, for example:
  - 3 RGBW led strips or 3 RGB led strips
  - 12 single colour LED strips
  - combination of RGB, RGBW & LED strips
- The 3-module design of the device with mounting in the switchboard allows the connection of a dimmable load of 3x 15 A or 12x 3.75 A, which represents, for example: 3 pieces of RGBW LED strips 24 V 20W/m = max 18m.
- The dimmer is controlled by the central unit of the iNELS system.
- The power supply of the LED strip is in the range of 0-50V DC.
- Each of the output channels is separately controllable and addressable.
- The actuator is equipped with electronic thermal protection, which switches off the output in case of overheating.
- During installation, it is necessary to leave at least half a module of free space on each side of the actuator for better cooling.
- DA3-03M/RGBW in 3-MODUL design is intended for installation in a switchboard on an EN60715 DIN rail.

Technical parameters	DA3-03M/RGBW	
Output		
Dimmable load:	LED strip 12 V, 24 V, 48 V; RGBW LED strip 12 V, 24 V, 48 V	
Number of channels:	3x 4	12x 1
Surge current:	3x 15 A	12x 3,75 A
Switching voltage:	0–50 V DC stabilized	
Dimmable performance:	max. 400 W	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage by BUS/ tolerance:	27 V DC, -20/+10 %	
Rated current:	5 mA (from 27 V DC), from BUS	
Status indication unit:	green LED RUN	
Connection		
Terminal:	max. 2.5 mm²/1.5 mm² with sleeve	
Operating conditions		
Air humidity:	max. 80 %	
Operating temperature:	-20 to +35 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20 device, IP40 mounting in the switchboard	
Pollution degree:	2	
Operating position:	vertical	
Installation:	switchboard on DIN rail EN 60715	
Design:	3-MODULE	
Dimensions and weight		
Dimensions:	90 x 52 x 65 mm	
Weight:	170 g	
Standards:	EN 63044-1	

Connection



IM3-40B, IM3-80B | Binary input units, 4 inputs and 8 inputs

EAN code
IM3-40B: 8595188132312
IM3-80B: 8595188132329

Order Code:
IM3-40B: 3231
IM3-80B: 3232

- Binary input units IM3-40B and IM3-80B are used for connection of 4 or 8 devices with potential-less contacts (switches, buttons, switches of other design, PIR detectors, fire and gas detectors, etc.).
- Part of the inputs can be used as a balanced for alarm detectors:
  - IM3-40B – inputs IN1, IN2
  - IM3-80B – inputs IN1 – IN5
- Contacts of external devices connected to the inputs of the unit can be NO or NC - input parameters are configured in the software iDM3.
- Within the internal ESS configured in the iDM3 software, inputs must be set to balance or double balance.
- The units generate a supply voltage of 12 V DC/75 mA for powering external intrusion detectors, so they can power PIR detectors, fire and gas detectors.
- Active use 12 V DC output for powering detectors increases the nominal consumption of units from BUS (see technical data).
- The units can be used for counting pulses of energy meters with pulse output.
- The units are equipped with a temperature input for connecting an external two-wire temperature sensor TC/TZ (see accessories).
- IM3-40B, IM3-80B in case type B are designed for mounting into a installation box.

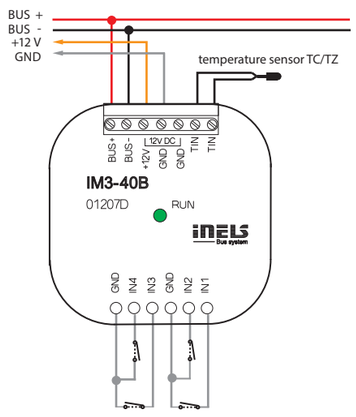
Technical parameters	IM3-40B	IM3-80B
Inputs		
Input:	4x* IN1, IN2**	8x* IN1- IN5**
Max. frequency pulse reading:	20 Hz	
Temperature measuring:	yes, input for external thermo sensor TC/TZ	
Range/accuracy of thermomeasuring:	-20 to +120 °C/0.5 °C from the range	
Outputs		
Output voltage/current:	12 V DC/75 mA, for supplying EZS sensors	
Communication		
Installation BUS:	BUS	
Status indication unit:	green LED RUN	
Power supply		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Dissipated power:	max. 1 W	
Rated current:	20 mA (at 27 V DC), from BUS	
Rated current of unit for full load on output 12 V DC:	60 mA	100 mA
Connection		
Terminal:	0.5-1 mm²	
Inputs:	6x conductors CY length 90 mm	x
Operating conditions		
Operating temperature:	-20 to +55 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP30	
Overvoltage category:	II.	
Pollution degree:	2	
Operating position:	any	
Installation:	into installation box	
Dimensions and weight		
Dimensions:	49 x 49 x 13 mm	
Weight:	32 g	27 g
Standards:	EN 63044-1	

* NO or NC against GND(-)
** are balanced inputs

Connection

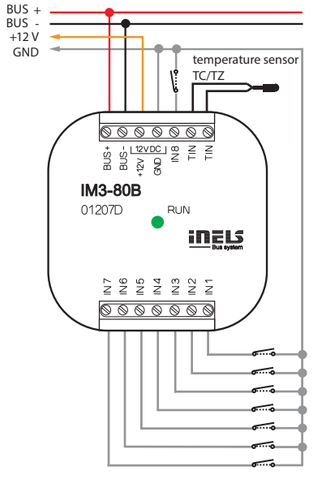
IM3-40B

for supplying of detectors
12 V DC/max. 75 mA



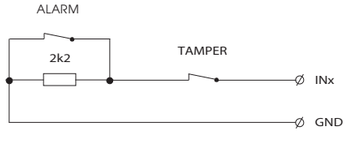
IM3-80B

for supplying of detectors
12 V DC/max. 75 mA

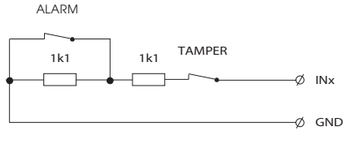


Balanced input

Simple:



Double:



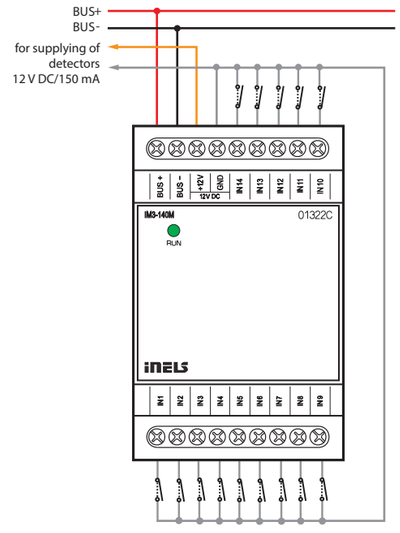
IM3-140M | Binary input unit, 14 inputs

EAN code
IM3-140M: 8595188132459
Order Code: 3245

- Binary input unit IM3-140M is designed to connect up to 14 devices with potentialless contact (such as switches, buttons of other designs, fire and glass detectors and others).
- Inputs IN1 - IN7 can be balanced.
- Contacts of external devices connected to the inputs of the drive can be NO or NC - Input parameters are configured in the software iDM3.
- Inputs must be configured as balanced or double balanced - in an internal Electronic security system configurated in iDM3 software.
- The unit generates a supply voltage of 12 V DC/150 mA for powering external detectors, so it can power PIR detectors, fire and gas detectors.
- Active use 12 V DC output for powering detectors increases the nominal consumption units from BUS (see technical data).
- The unit can be used for counting pulses of energy meters with pulse output.
- IM3-140M in 3-MODULE is designed for switchboard mounting on DIN rail EN60715.

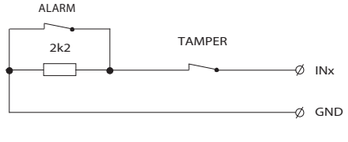
Technical parameters	IM3-140M
Inputs	
Input:	14x NO or NC against GND (-) IN1 - IN7 - are balanced inputs
Max. frequency pulse reading:	20 Hz
Outputs	
Output (power supply 12 V for sensors):	12 V DC/150 mA
Communication	
Installation BUS:	BUS
Data transfer indication:	green LED
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 1 W
Rated current:	25 mA (at 27 V DC), from BUS
Rated current for full load on output 12 V DC:	100 mA
Connection	
Terminal:	max. 2.5 mm²/1.5 mm² with sleeve
Operating conditions	
Air humidity:	max. 80 %
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into a switchboard rail to DIN EN 60715
Design:	3-MODULE
Dimensions and weight	
Dimensions:	90 x 52 x 65 mm
Weight:	104 g
Standards:	EN 63044-1

Connection

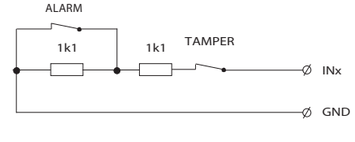


Balanced input

Simple:



Double:



TI3-40B | Temperature input, 4 inputs

EAN code
TI3-40B: 8595188132695
Order Code: 3269

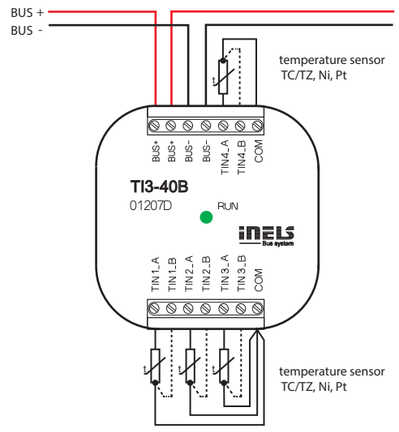
- The unit is designed for connection of up to four (TI3-40B) external temperature sensors.
- Units range TI3 support the connection of the following temperature sensors:
  - TC/TZ - 2-wire connections
  - Ni1000, Pt1000, Pt100 - 2-wire and 3-wire connections
- Used in when necessary to take temperatures from different places (for example large floor heating – diagonal layout of sensors, floor/space, indoor/outdoor temperature, technological device – boiler, solar heating etc.)
- Status of units indicated by green RUN LED on the front panel:
  - if the supply voltage is connected (units are powered via the BUS), but there is no communication with the master, RUN LED is lit continuously.
  - if the supply voltage is connected and the unit communicates via standard BUS, RUN LED flashes.
- TI3-40B in version B is designed for mounting into an installation box.

Technical parameters	TI3-40B
Input	
Temperature input for temperature measuring:	4x inputs for external thermo sensor*
Emperature measurement range:	by type of sensor, prob from -50°C to 400°C
Converter resolution:	15 bit
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 1 W
Rated current:	20 mA (at 27 V DC), from BUS
Connection	
Terminal:	0.5 mm² - 1 mm²
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP30
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into installation box
Dimensions and weight	
Dimensions:	49 x 49 x 13 mm
Weight:	27 g
Standards:	EN 63044-1

*TC, TZ, Ni1000, Pt1000, Pt100, see accessories

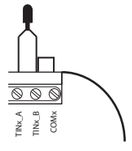
Connection

TI3-40B

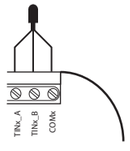


Connection options

2-wire
- it is necessary to connect terminals TIN_B and COM



3-wire
- connection of the sensor needs to be done according to the technical specifications



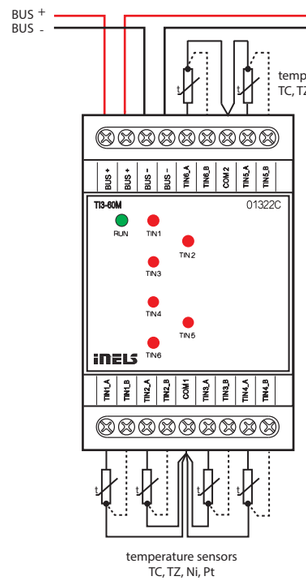
TI3-60M | Temperature input, 6 inputs

EAN code
TI3-60M: 8595188132893
Order Code: 3289

- Unit TI3-60M is designed to connect up to six external temperature sensors.
- Units range TI3 support the connection of the following temperature sensors:
  - TC/TZ - 2-wire connections
  - Ni1000, Pt1000, Pt100 - 2-wire and 3-wire connections
- It is used in cases where it is necessary to read the temperature, eg floor/room, indoor/outdoor temperature, process equipment - boiler, solar heating, etc.
- Unit status is indicated by green RUN LED on the front panel:
  - if the supply voltage is connected (the unit is powered via the BUS), but there is no communication with the master, RUN LED is lit continuously.
  - if the supply voltage is connected and the unit communicates via standard BUS, RUN LED flashes.
- The status on individual temperature inputs is indicated by the relevant red LED on the front panel:
  - LIT - temperature sensor disconnection
  - FLASHES - exceeding of the temperature range
  - UNLIT - ok
- TI3-60M in 3-MODULE is designed for switchboard mounting on DIN rail EN60715.

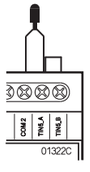
Technical parameters	TI3-60M
Inputs	
Temperature input for temperature measuring:	6x input for external temperature sensor TC, TZ, Ni1000, Pt1000, Pt100 see accessories
Temperature measurement range:	by type of sensor, probe from -50°C to 400°C
Converter resolution:	15 bit
Indication of exceeding the range or interruption of the sensor:	6x red LED
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 1 W
Rated current:	45 mA (at 27 V DC), from BUS
Connection	
Terminal:	max. 2.5 mm²/1.5 mm² with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	into a switchboard rail to DIN EN 60715
Design:	3-MODULE
Dimensions and weight	
Dimensions:	90 x 52 x 65 mm
Weight:	111 g
Standards:	EN 63044-1

Connection

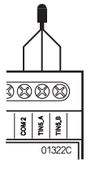


Connection options

2-wire
- it is necessary to connect terminals TIN_B and COM



3-wire
- connection of the sensor needs to be done according to the technical specifications



RC3-610M/DALI | Room controller with DALI dimmer

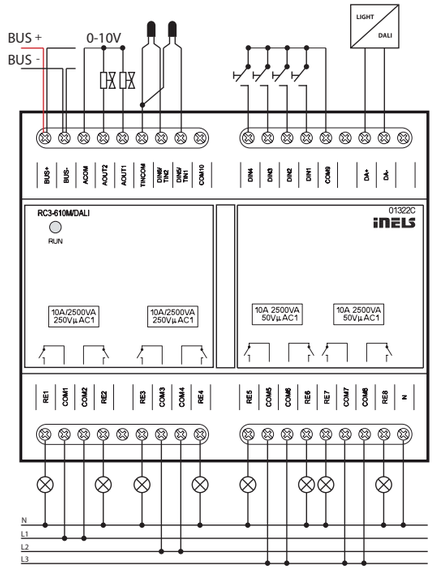
EAN code
RC3-610M/DALI: 8595188184663
Order Code: 8466

- The RC3-610M/DALI is an I/O actuator equipped with 6 binary inputs, of which 2 can be configured as temperature inputs and 8 independent relays with switching potential-free and potential contacts. It also includes two analog outputs 0(1)-10 V with a load capacity of up to 10 mA.
- Binary inputs RC3-610M/DALI are used for connecting up to 6 devices with a non-decimal contact (such as switches, switches, buttons of other designu, EZS and EPS detectors and others).
- Temperature inputs support the connection of TC/TZ temperature sensors in a 2-wire connection for temprature sensing needs.
- The actuator is designed for switching up to eight different appliances and loads by relay output (potential-free contact).
- The maximum load capacity of the relay contacts is 10 A/2500 VA/ AC1. Each of the output contacts is individually controllable. Relays are divided into four pairs, where each pair switches on its common potential.
- The DALI system BUS allows control of up to 16 independent DALI (Digital Addressable Lighting Interface) ballast addresses for fluorescent, LED and other luminaires.
- Analog outputs are considered for use with thermoregulation heads, air-conditioning ventilation flaps, various other dimmers or other devices with an analog control voltage of 0-10 V or 1-10 V.
- The parameters of all configurable inputs and outputs are set in the iNELS Designer & Manager configuration software environment, which is designed for Windows 7, 8 and 10 operating systems.
- RC3-610M/DALI in 6-MODULE version is designed for mounting into a switchboard on DIN rail EN60715.

Technical parameters	RC3-610M/DALI
Output	
Relay	8x NO/switch 10 A/AC1
Switched voltage:	250VAC , 30VDC
Switched power:	2500 VA/AC1, 150 W/DC
Peak current:	10A AC1 , 5A DC
Relay outputs separated from of all internal circuits:	reinforced insulation (Overvoltage cat. II according to EN 60664-1)
Isolation between COM1,2 a COM3,4 a COM5,6,7,8 *	basic insulation (cat. overvoltage II according to EN 60664-1) max. 400AC
Isolation voltage of the open relay contact:	1 kV
Max. current through one common terminal:	16 A
Minimum switching current:	100 mA/10 V DC
Mechanical service life:	10 000 000
Electrical life AC1:	100 000
Analog	
Analog outputs:	AO1, AO2
Voltage analogue. output/ max. current:	2x 0(1) - 10 V/10 mA
Inputs	
Input DIN:	6x DIN (digital input) or 4x DIN + 2x TIN (temperature input) **
DIN sampling rate:	20 Hz
DIN common wire:	COM9, COM10
TIN common wire:	TINCOM
Communication	
DALI	
Output interface:	DALI
DALI addresses (max.):	16
Internal DALI source:	yes, max. 64 mA
BUS	
Installation bus:	BUS
Indication of unit status:	Green LED RUN
Power	
Internal DALI supply terminals:	terminals COM8 and N
Internal DALI supply voltage:	100-240V 50/60H max.0.1A
Power dissipation:	3 W
Connection	
Terminal plate:	max. 2.5 mm²/1.5 mm² with core

Operating conditions	
Working temperature:	-20 to +55 °C
Storage temperature:	-30 to +70 °C
Degree of protection:	IP20 device, IP40 with cover in the control cabinet
Surge category:	II.
Degree of pollution:	2
Working position:	any
Installation:	to the control cabinet for DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	310 g
Standards:	EN 63044-1

Connection



* adjacent COM terminals (COM1 and 2, COM3 and 4, COM5 and 6, COM7 and 8) must be at the same potential
** input function is set during configuration
*** ACOM and COM9 terminals are at BUS potential

To provide power to the Dali bus via DA+ and DA-, it is essential to establish a 230V connection between Com8 and N.

FA3-612M | Fancoil controller

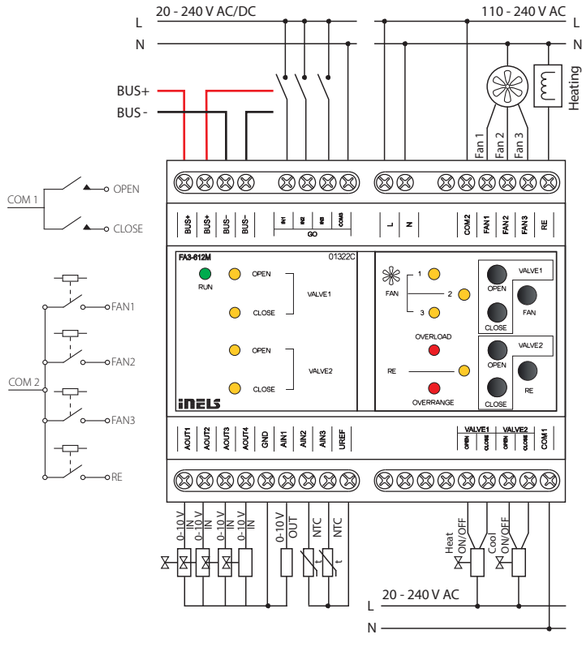
EAN code
FA3-612M: 8595188135276
Order Code: 3257

- FA3-612M is a unit (actuator) designed to control fancoil units using analogue/digital inputs and analog/relay outputs.
- Analog inputs for temperature, voltage or current measurement (URef reference voltage can also be used).
- The digital inputs are galvanically isolated with positive logic (Sink) in the 24-230 V AC/DC voltage range.
- Analog outputs 0-10 V.
- Connection to the installation BUS.
- Buttons for closing/opening the valve, fan and heating relay.
- The LEDs on the front panel indicate FAN, RE, VALVE1, VALVE2, OVER-RANGE, and OVERLOAD status.
- FA3-612M in 6-MODULE version is designed for mounting into a switch-board, on DIN rail EN60715.

Technical parameters	FA3-612M
Input	
Analog inputs:	3x voltage, current or temperature input
Number of inputs:	3
Galv. separation from inner circuits:	no
Diagnostic:	indication red LED OVERRANGE (exceeding the range, interruption of a sensor or overload of Uref output)
Common terminal:	GND
Converter resolution:	14 bits
Input resistance - for voltage ranges: - for current ranges:	approx. 150 kΩ 100 Ω
Types of inputs/measuring ranges*:	**Voltage** (U): 0 ÷ +10 V (U) ; 0 ÷ +2 V (U) **Current** (I) : 0 ÷ +20 mA (I) ; 4 ÷ +20 mA (I) **temperature**: input at ext. temperature sensor TC, TZ, Ni1000**, Pt1000**, Pt100** see accessories/ according to used sensor from -30 °C to 250 °C
Digital inputs:	3x switching or expansion, positive logic (SINK)
Input voltage:	20 - 240 V AC (50 - 60 Hz)/DC
Galv. separation from internal circuits:	yes
Common lead:	GO COM3
Outputs	
Analog:	4x (A_OUT1 - A_OUT4)
Voltage analog. output/max. Current:	4x 0(1) - 10 V/10 mA
Uref reference voltage outputs	
Voltage/Current Uref:	10 V DC/100 mA
Output overload indication:	red LED OVERLOAD
SSR (Electronic Relay):	4x (VALVE1 - VALVE2)
Switching voltage:	20 - 240 V AC
Switching capacity:	480 VA
Peak current:	20 A, t ≤ 16 ms
Output indication:	yellow LED
Relay 6A:	4x (FAN1-FAN3, RE)
Switching voltage:	250 V AC, 24 V DC
Switching capacity:	1500 VA/AC1; 300 VA/AC15; 180 W/DC, AC3
Relay outputs separated from from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Minimum switching load:	500 mW (12 V/10 mA)
Mechanical life:	$10x10^6$
Electrical life AC1:	$6x10^4$
Output indication:	yellow LED
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Supply voltage/tolerance/ rated current:	27 V DC, -20/+10 %, 5 mA
Supply voltage of power section (relay) tolerance/ nominal current:	AC 230 V (50 Hz), -15/+10 %, 20 mA
Dissipated power:	max. 1 W

Connection	
Terminal:	max. 2.5 mm²/1.5 mm² with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	307 g
Standards:	EN 63044-1

Connection



* selectable for each input individually by configuration in the user program iDM3.
** The FA3-612M / Pt version is available for these sensors.

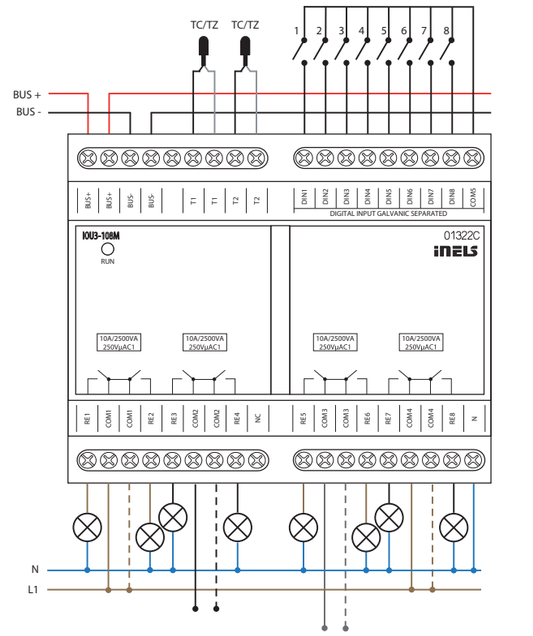
IOU3-108M | Universal unit with 10 inputs and 8 outputs

EAN code
IOU3-108M: 8595188181884
Order Code: 8188

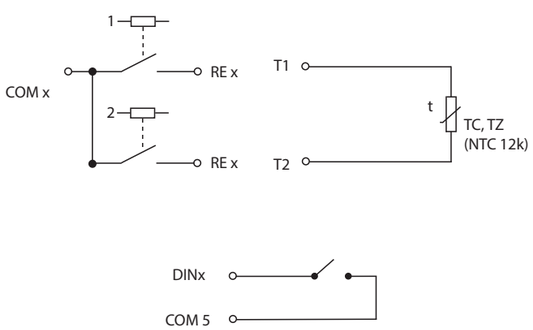
- IOU3-108M is combined actuator equipped with 8 binary inputs, 2 temperature inputs and 8 independent relays with switching potential-free contacts.
- Binary inputs IOU3-108M are used to connect up to 8 devices with a potential-free contact (such as switches, buttons, burglar alarm and fire detectors or others).
- The unit can be used to read pulses from energy meters with a pulse output.
- The temperature inputs support the connection of the following temperature sensors: TC / TZ - 2-wire connection.
- They are used in cases where it is necessary to measure the temperature, eg floor/space, indoor/outdoor temperature, technological equipment - boiler rooms, solar heating, etc.
- The maximum load capacity of the contacts is 10 A / 2500 VA / AC1.
- Each of the output is individually controllable and addressable.
- The relays are divided into four pairs, where each pair switches its common potential.
- The actuator is designed for switching up to eight different appliances and loads via a relay output (potential-free contact).
- IOU3-108M in 6-MODULE design is designed for mounting in a switchboard on DIN rail EN60715.

Technical parameters	IOU3-108M
Outputs	
Output:	8x switching 8 A/AC1
Switched voltage:	250 V AC1, 150 W/DC
Switched output:	2500 VA/AC1, 150 W/DC
Peak current:	10 A
Output relays separated from all internal circuits:	reinforced insulation (Cat. II surges by EN 60664-1)
Isolation between relay outputs COM1, COM2 and COM3:	basic insulation (Cat. II surges by EN 60664-1)
Isolates. voltage open relay contact:	1 kV
Max. current of one common terminal:	16 A
Minimal switched current:	100 mA/10 V DC
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	10 000 000
Electrical life AC1:	100 000
Mains voltage detection:	yes - (relay switched to neutral)
Inputs	
Input:	8x NO or NC against GND (-)
Max. frequency pulse reading:	20 Hz
Temperature input for temperature measuring:	2x input for external thermo sensor TC, TZ (NTC 12k)
Temperature measurement range:	by type of sensor, prob from -40 °C to 125 °C
Converter resolution:	15 bit
Communication	
Installation BUS:	BUS
Status indication unit:	green LED RUN
Power supply	
Voltage of BUS/tolerance/ nominal current:	27 V DC, -20/+10 %, 110 mA
Dissipated power:	3 W
Connection	
Terminal:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20 device, IP40 mounting in the switchboard
Overvoltage category:	II.
Pollution degree:	2
Operating position:	any
Installation:	switchboard on DIN rail EN 60715
Design:	6-MODULE
Dimensions and weight	
Dimensions:	90 x 105 x 65 mm
Weight:	310 g
Standards:	EN 63044-1

Connection



Diagram



WSB3-20, WSB3-20H | Wall switch button, 2 buttons

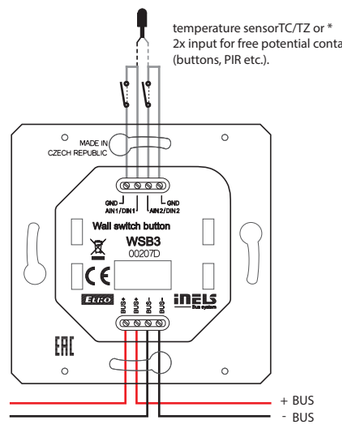
EAN code
WSB3-20: 8595188132343
WSB3-20H: 8595188132473

Order Code:
WSB3-20: 3234
WSB3-20H: 3247

- Wall controllers with low-upstroke control WSB3-20 and WSB-20H are the main and most frequently used units (controller) in the iNELS system.
- Built-in micro-buttons with low upstroke offer elegant and easy controlling.
- Wall switches WSB3-20 and WSB3-20H are available in 2-channels version.
- Double color (red/green) LED diode indicates either status of controlled appliances or status of any sensor or actuator in the system.
- Wall buttons in WSB3 series are compatible with both types of frames LOGUS^{90} (85.6 x 85.6 or 94 x 94 mm), therefore you can combine them with double and triple frames and classic products of the series.
- Each controller is equipped with a temperature sensor. It is also equipped with two analog/digital inputs (AIN/DIN), which can be used to connect two potentialless contacts or one external temperature sensor TC/TZ (e.g. for measuring floor temperature).
- Wall button WSB3-20H is comparable to the WSB3-20 but additionally equipped with a relative humidity meter, and for better access of air to the sensor can be used with 99621T including accessories 99622 (Vista MT) and 99,623 (Vista IRMT), instead of the housing cover 99601T.
- Compared to standard wall buttons WSB3-20 and WSB3-20H are more flexible and multifunctional. You can for example controll appliances by short and long push of the button (e.g.: dimming, shutter control, scenes).
- Each button can control any appliance in the system and can use a variety of centralized or time controlled features. Accordingly, the customer can choose the simplicity/complexity of the operation. The big advantage is the possibility to change the method of control by only making software modifications without physical interventions into the structure of the building.
- Each button (fold) can have different functional modes beside lighting control:
  a) Classic wall-switch:
  - upper button ON, bottom button OFF
  b) Button controller (impulse relay):
  - first press ON, second press OFF
  c) Dimmer:
  - short press – ON/OFF
  d) Time switch:
  - ON after press, automatically OFF after set time
  e) Setting light scenes – for example: for watching TV:
  - shutters down
  - main light 30% intensity
  - wall-lamps 50% intensity
- WSB3 in LOGUS^{90} design is designed for mounting into an installation box.

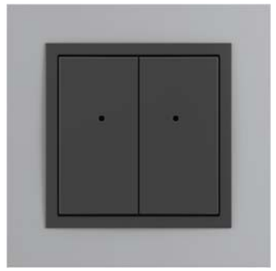
Technical parameters	WSB3-20	WSB3-20H
Inputs		
Temperature measuring:	yes, built-in temperature sensor	
Scope and accuracy of temp. measuring:	0 to +55 °C ; 0.3 °C from the range	
Number of control buttons:	2	
Humidity measurement:	NO	YES
Humidity measurement range:	-	0 to 99 % Relative humidity
Humidity measurement accuracy:	-	± 3 % Relative humidity
Inputs:	2x AIN/DIN	
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2	
Type of ext. sensor:	TC/TZ	
Temperature measurement range:	-20 °C to +120 °C	
Temp. measurement accuracy:	0.5 °C from range	
Outputs		
Indication:	two-colored LED (red, green)	
Number of LEDs:	1	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Dissipated power:	max. 0.5 W	
Rated current:	25 mA (at 27 V DC), from BUS	
Connection		
Terminals:	0.5 - 1 mm^2	
Operating conditions		
Operating temperature:	-20 to +55 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	into installation box	
Dimensions and weight		
Dimensions - plastic:	85.6 x 85.6 x 42 mm	
- metal, glass, wood, granite:	94 x 94 x 36 mm	
Weight:	55 g (without frame)	
Standards:	EN 63044-1	

Connection



* The choice is made in iDM3 for each unit separately.

WSB3-40, WSB3-40H | Wall switch button, 4 buttons



EAN code
WSB3-40: 8595188132336
WSB3-40H: 8595188133043

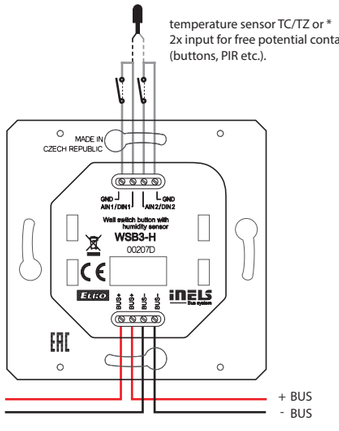
Order Code:
WSB3-40: 3233
WSB3-40H: 3304

- Wall mounted controllers with upstroke control WSB3-40 and WSB3-40H are the basic and most popular feature (control) of the iNELS system.
- Built-in micro-switch with low upstroke offers elegant and pleasant control.
- Controllers WSB3-40 and WSB3-40H are supplied with 4-channels.
- Two-coloured indication LEDs located in each controller, can signal the status of controlled appliances or the status of any sensor or actuator in the system.
- Wall buttons in WSB3 series are compatible with both types of frames LOGUS^{90} (85.6x85.6 or 94x94 mm), therefore you can combine them with double and triple frames and classic products of the series.
- Each controller is equipped with a temperature sensor. It is also equipped with two analog/digital inputs (AIN/DIN), which can be used to connect two potentialless contacts or one external temperature sensor TC/TZ (e.g. for measuring floor temperature).
- Compared to standard wall buttons WSB3-20 and WSB3-20H are more flexible and multifunctional. You can for example controll appliances by short and long push of the button (e.g.: dimming, shutter control, scenes).
- Each button can control any appliance in the system and can use a variety of centralized or time controlled features. Accordingly, the customer can choose the simplicity/complexity of the operation. The big advantage is the possibility to change the method of control by only making software modifications without physical interventions into the structure of the building.
- Each button (fold) can have different functional modes beside lighting control:
  a) Classic wall-switch:
  - upper button ON, bottom button OFF
  b) Button controller (impulse relay):
  - first press ON, second press OFF
  c) Dimmer:
  - short press – ON/OFF
  d) Time switch:
  - ON after press, automatically OFF after set time
  e) Setting light scenes – for example: for watching TV:
  - shutters down
  - main light 30% intensity
  - wall-lamps 50% intensity
- WSB3 in LOGUS^{90} design is designed for mounting into an installation box.

Technical parameters	**WSB3-40**	**WSB3-40H**
Inputs		
Temperature measuring:	YES, built-in temperature sensor	
Scope and accuracy of temp. measuring:	0 to +55 °C ; 0.3 °C from the range	
Number of control buttons:	4	
Humidity measurement:	NO	YES
Humidity measurement range:	-	0 to 99 % Relative humidity
Humidity measurement accurancy:	-	± 3 % Relative humidity
Inputs:	2x AIN/DIN	
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2	
Type of external sensor:	TC/TZ	
Temp. measurement range:	-20 °C to +120 °C	
Temp. measurement accuracy:	0.5 °C from range	
Outputs		
Indication:	two-colored LED (red, green)	
Number of LEDs:	2	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Dissipated power:	max. 0.5 W	
Rated current:	25 mA (at 27 V DC), from BUS	
Connection		
Terminals:	0.5 - 1 mm^2	
Operating conditions		
Operating temperature:	-20 to +55 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	into installation box	
Dimensions and weight		
Dimensions		
- plastic:	85.6 x 85.6 x 42 mm	
- metal, glass, wood, granite:	94 x 94 x 36 mm	
Weight:	55 g (without frame)	
Standards:	EN 63044-1	

* The choice is made in iDM3 for each unit separately.

Connection



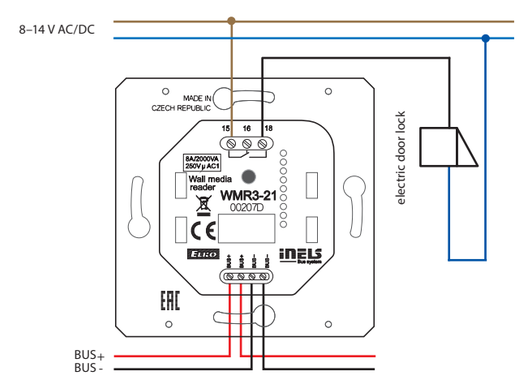
WMR3-21 | Wall card reader

EAN code
WMR3-21: 8595188132756
Order Code: 3275

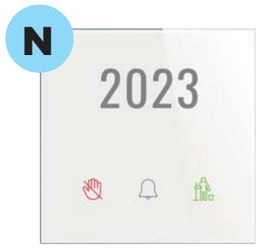
- WMR3-21 is a wall-mounted card reader that is designed for read contactless media (smart cards, key chains, etc.), which are used for controlling access to buildings or their parts.
- With the glass controller WMR3-21 users will appreciate the easy of control using two push buttons, which can be assigned different control functions lighting, shading, scenes, heating, etc.
- WMR3-21 reader can be used to control the security system (locking/unlocking) access system (opening doors, gates, etc.) or appliances (based on assigned rights).
- WMR3-21 supports RFID media with the carrier frequency of 13.56 MHz. Supported card types MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1) .
- WMR3-21 is also equipped with 8 A relay output with changeover contact AgSnO$_2$, by which controlled devices can be switched directly (or any actuator in the system can be set in software iDM3).
- Indication two-color LED in the controller cover can indicate not only the status of controlled appliance, but also the status of any sensor or actuator in the system.
- Wall card reader WMR3-21 is compatible with both types of frames LOGUS^{90} (85.6 x 85.6 or 94 x 94 mm), therefore you can combine them with double and triple frames and classic products of the series.

Technical parameters	**WMR3-21**
Inputs	
Number of control buttons:	2
RFID readers	
Supported frequencies:	13.56 MHz
Card Type:	MIFARE Ultralight, DESFire 2K (EV1), DESFire 4K (EV1)
Outputs	
Output:	1x changeover 8 A/AgSnO$_2$
Indication:	two-color LED (red, green)
Acustic output:	piezo-changer
Switching voltage:	230 V A/30 V DC
Switching output:	2000 VA/AC1; 240 W/DC
Peak current:	20 A/<3s
Insulation voltage between relay outputs and internal circuits:	3.75 kV, SELV according to EN 60950
Minimal switched current:	10 mA/10 V
Switching frequency without load:	300 min^{-1}
Switching frequency with rated load:	15 min^{-1}
Mechanical life:	1x 10^7
Electrical life AC1:	1x 10^5
Communication	
Installation BUS:	BUS
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 0.5 W
Rated current:	50 mA (at 27 V DC), from BUS
Connection	
Data:	terminals, 0.5 - 1 mm^2
Network:	max. 2.5 mm^2/1.5 mm^2 with sleeve
Operating conditions	
Operating temperature:	-20 to +55 °C
Storing temperature:	-30 to +70 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	any
Installation:	into installation box
Dimensions and weight	
Dimensions	
- plastic:	85.6 x 85.6 x 42 mm
- metal, glass, wood, granite:	94 x 94 x 36 mm
Weight:	68 g (without frame)
Standards:	EN 63044-1

Connection



GCR3-30, GCR3-230 | Glass card reader



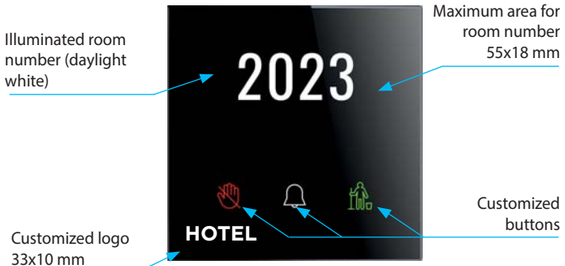
EAN code
GCR3-30/B: 8595188191692
GCR3-30/W: 8595188191708
GCR3-230/B: 8595188191715
GCR3-230/W: 8595188191722

Order Code:
GCR3-30/B: 9169
GCR3-30/W: 9170
GCR3-230/B: 9171
GCR3-230/W: 9172

Technical parameters	GCR3-30	GCR3-230
Inputs		
Illuminance sensor:	1 to 100 000 Lx	
Proximity Sensor:	(SWP/SBP models) motion detection at a distance of 0.25 m	
RFID readers		
Supported frequencies:	13.56 MHz	
Card Type:	Mifare 1k, 4k, Ultralight, DesFire, ISO/IEC 14443-4 (CD97BX, CD light, P5CN072 (SMX) Innovision jewel (IRT5001), FeliCa (RCS_860, RCS_854)	
Buttons		
Number of control buttons:	3	
Type:	capacitive	
Indication:	coloured illuminated symbol	
Outputs		
Acustic output:	piezo-changer	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Dissipated power:	max. 0.5 W	
Rated current:	25-50 mA (at 27 V DC), from BUS	
Connection		
Terminals:	EIB ø 0.6 - 0.8 mm²	
Operating conditions		
Relative humidity:	max. 80 %	
Operating temperature:	-20 to +55 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	on the wall, observing the conditions for correct installation of the sensor	
Dimensions and weight		
Dimensions:	94 x 94 x 41 mm | 100 x 100 x 8 mm	
Weight:	154 g	
Standards:	EN 63044-1	

- Glass card reader GCR3-30 is part of a comprehensive range of glass iNELS control units and can be advantageously used in all projects, e.g. guest room management system (GRMS).
- GCR3-30 card reader is designed for reading smart cards, which are intended to enter the hotel room or any other part of the building.
- GCR3-30 supports RFID media with a carrier frequency of 13.56 MHz. Supported card types Mifare 1k, 4k, Ultralight, DesFire, ISO/IEC 14443-4 (CD97BX, CD light, P5CN072 (SMX) Innovision jewel (IRT5001), FeliCa (RCS_860, RCS_854)
- The GCR3 is a design component of the iNELS system and is available in elegant black (GCR3-30/B, GCR3-230/B) and white (GCR3-30/ W, GCR3-230/ W) variants. The GCR3-30 models feature a square design, while the GCR3-230 models come in a round design.
- Engraving of symbols is possible upon a request. The room number as well as the logo of the hotel can be also engraved on each component.
- The controller is also equipped with 3x capacitive touch button with different function or macro (set of functions). It is therefore possible to use one button to control several application. For eg. Function of bell and with two icons to indicate the status of guest requests, e.g. “Do Not Disturb" and "Make Up Room", whose state guest can set from other glass switch panel.
- Individual symbols can be illuminated in one of seven colours - red, green, blue, yellow, pink, turquoise and white.
- Reader GCR3-30 is equipped with a sensor for ambient light intensity and proximity sensor. Based on information from the sensor it can e.g. switch the lighting circuits in the corridor.
- All versions are in the size of the standard module (94x94 mm) and are designed for mounting into an installation.
- GCR3-30 are designed for mounting into an installation box.

Instrument description



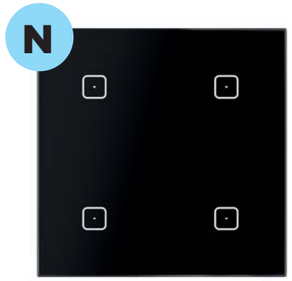
GCR3-30/SB
(BLACK glass, SHARP edges)

Button legend

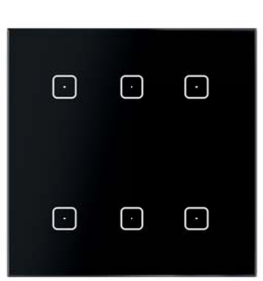
Create your glass design here:
icons.inels.com

Connection

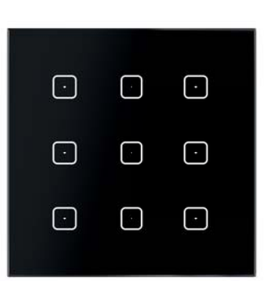
Notes



EAN code
GSB3-40/B: 8595188132909
Order Code: 8879



EAN code
GSB3-60/B: 8595188132916
Order Code: 8877



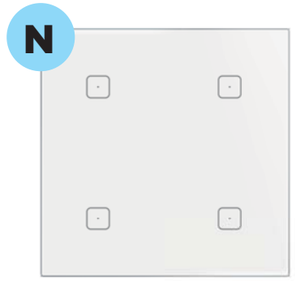
EAN code
GSB3-90/B: 8595188188272
Order Code: 8827

Technical parameters	GSB3-XX, GSB3-2XX		
Inputs			
Temperature measuring:	YES, built-in temperature sensor		
Scope and accuracy of temp. measurement:	0 to +55 °C; 0.3 °C from the range		
Humidity measurement:	YES		
Humidity measurement range:	0 to 99 % RH		
Inputs:	AIN/DIN		
Resolution:	by setting 10-bit		
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2		
Type of external sensor:	TC/TZ		
Temperature measurement range:	-20 °C to +120 °C		
Temperature measurement accuracy:	0.5 °C from the range		
Buttons			
Number of control buttons:	4	6	9
Type:	capacitive		
Indication:	blue highlighted point		
Outputs			
Acustic output:	piezo-changer		
Communication			
Installation BUS:	BUS		
Power supply			
Supply voltage/tolerance:	27 V DC, -20/+10 %		
Dissipated power:	max. 0.5 W		
Rated current:	20-38 mA	20-45 mA	20-50 mA
	(at 27 V DC), from BUS		
Connection			
Terminals:	EIB ø 0.6 - 0.8 mm²		
Operating conditions			
Relative humidity:	max. 80 %		
Operating temperature:	-20 to +55 °C		
Storing temperature:	-30 to +70 °C		
Protection degree:	IP20		
Overvoltage category:	II.		
Pollution degree:	2		
Operation position:	any		
Installation:	on the wall, observing the conditions for correct installation of the sensor		
Dimensions and weight			
Dimensions:	94 x 94 x 41 mm | 100 x 100 x 8 mm		
Weight:	154 g		
Standards:	EN 63044-1		

- Glass touch controllers GSB3-XXX are part of a comprehensive range of glass iNELS control units and can be advantageously used in all projects for example as a part of guest room management system (GRMS).
- The GSB3-40, GSB3-60, and GSB3-90 models feature a square design, while the GSB3-240, GSB3-260, and GSB3-290 models come in a round design.
- GSB3-40, GSB3-240 is equipped with four, GSB3-60, GSB3-260 six and GSB3-90, GSB3-290 nine touch buttons whose functions can easily modify by the software.
- The glass touch controllers is equipped with an integrated temperature sensor. It is also equipped with analog-to-digital input (AIN/DIN), which can be used to connect potential-free contact or external temperature sensor TC/TZ (for example temperature measurement of the floor).
- Advantages over conventional switches/buttons are saving space, signalling the state of any system output, the ability to measure temperature as well as the ability to connect external buttons or detectors.
- Each button can control any actuator (appliance) in the system. Also, you can assign each button a different function or macro (set of functions). It is therefore possible to use one button to control several appliances at once.
- Glass touch panel is a design component of the iNELS system and is available in elegant black (GSB3-XXX/B) and white (GSB3-XXX/W) versions.
- The individual capacitive buttons are point-illuminated by a blue LED indicating the status of the controlled output.
- All versions are in the size of the standard module (94x94 mm) and designed for mounting into an installation box.

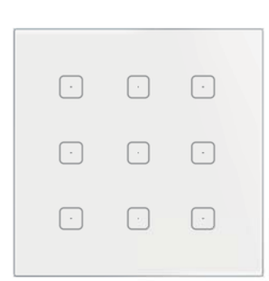
Another view

GSB3-60B

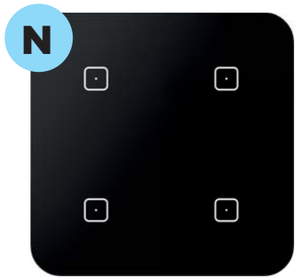


EAN code
GSB3-40/W: 8595188132954
Order Code: 8880

EAN code
GSB3-60/W: 8595188132985
Order Code: 8878

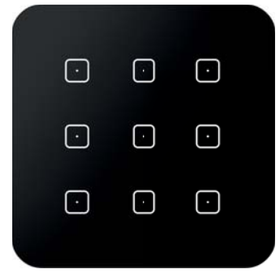


EAN code
GSB3-90/W: 8595188188289
Order Code: 8828

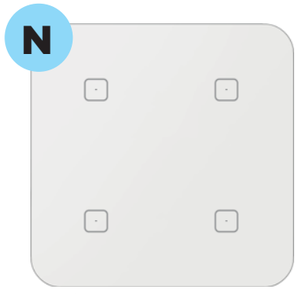


EAN code
GSB3-240/B: 8595188189569
Order Code: 8956

EAN code
GSB3-260/B: 8595188189583
Order Code: 8958



EAN code
GSB3-290/B: 8595188189606
Order Code: 8960

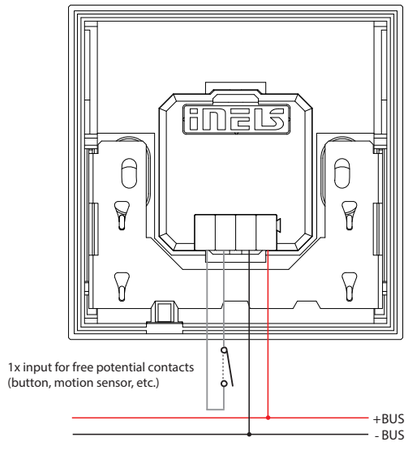


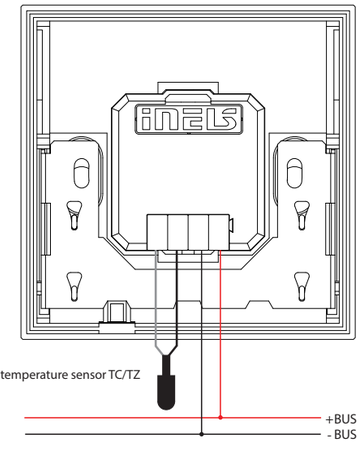
EAN code
GSB3-240/W: 8595188189576
Order Code: 8957

EAN code
GSB3-260/W: 8595188189590
Order Code: 8959

EAN code
GSB3-290/W: 8595188189613
Order Code: 8961

Connection





GSB3-XX/S, GSB3-2XX/S | Glass switch buttons with symbols

EAN code
GSB3-40/SB: 8595188156233
GSB3-40/SBP: 8595188188883 (proximity)
Order code
GSB3-40/SB: 8875
GSB3-40/SBP: 8888 (proximity)

EAN code
GSB3-60/SB: 8595188156257
GSB3-60/SBP: 8595188188869 (proximity)
Order code
GSB3-60/SB: 8873
GSB3-60/SBP: 8886 (proximity)

EAN code
GSB3-90/SB: 8595188188258
GSB3-90/SBP: 8595188188845 (proximity)
Order code
GSB3-90/SB: 8825
GSB3-90/SBP: 8884 (proximity)

Technical parameters	GSB3-XX/S, GSB3-2XX/S		
Inputs			
Temperature measuring:	YES, built-in temperature sensor		
Scope and accuracy of temp. measurement:	0 to +55 °C; 0.3 °C from the range		
Humidity measurement:	YES		
Humidity measurement range:	0 to 99 % RH		
Inputs:	AIN/DIN		
Resolution:	by setting 10-bit		
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2		
Type of external sensor:	TC/TZ		
Temperature measurement range:	-20 °C to +120 °C		
Temperature measurement accuracy:	0.5 °C from the range		
Illuminance sensor:	1 to 100 000 Lx		
Proximity Sensor:	(SWP/SBP models) motion detection at a distance of 0.25 m		
Buttons			
Number of control buttons:	4	6	9
Type:	capacitive		
Indication:	coloured illuminated symbol		
Outputs			
Acustic output:	piezo-changer		
Communication			
Installation BUS:	BUS		
Power supply			
Supply voltage/tolerance:	27 V DC, -20/+10 %		
Dissipated power:	max. 0.5 W		
Rated current:	25-43 mA	25-50 mA	25-50 mA
	(at 27 V DC), from BUS		
Connection			
Terminals:	EIB ø 0.6 - 0.8 mm²		
Operating conditions			
Relative humidity:	max. 80 %		
Operating temperature:	-20 to +55 °C		
Storing temperature:	-30 to +70 °C		
Protection degree:	IP20		
Overvoltage category:	II.		
Pollution degree:	2		
Operation position:	any		
Installation:	on the wall, observing the conditions for correct installation of the sensor		
Dimensions and weight			
Dimensions:	94 x 94 x 41 mm | 100 x 100 x 8 mm		
Weight:	154 g		
Standards:	EN 63044-1		

- Glass touch controllers with symbols GSB3-XX/S are part of a comprehensive range of glass iNELS control units and can be advantageously used in all projects for example as a part of guest room management system (GRMS).
- The GSB3-40/S, GSB3-60/S, and GSB3-90/S models feature a square design, while the GSB3-240/S, GSB3-260/S, and GSB3-290/S models come in a round design.
- GSB3-40/S, GSB3-240/S is equipped with four, GSB3-60/S, GSB3-260/S six and GSB3-90/S, GSB3-290/S nine touch buttons whose functions can easily modify by the software.
- Symbols on the glass touch controllers can be engraved upon request, allowing for personalized and tailored solutions to meet specific project needs. Additionally, there is an option to engrave text for each button, further enhancing customization possibilities.
- The glass touch controllers is equipped with an integrated temperature sensor. It is also equipped with analog-to-digital input (AIN/DIN), which can be used to connect potential-free contact or external temperature sensor TC/TZ (for example temperature measurement of the floor).
- Advantages over conventional switches/buttons are saving space, signalling the state of any system output, the ability to measure temperature as well as the ability to connect external buttons or detectors.
- Each button can control any actuator (appliance) in the system. Also, you can assign each button a different function or macro (set of functions). It is therefore possible to use one button to control several appliances at once.
- Glass touch panel is a design component of the iNELS system and is available in elegant black (GSB3-XXX/SB) and white (GSB3-XXX/SW) versions.
- Individual symbols can be illuminated in one of seven colours - red, green, blue, yellow, pink, turquoise and white.
- All versions are in the size of the standard module (94x94 mm) and are designed for mounting into an installation box.
- In addition to all the features in symbol models. The glass touch controllers in the SBP/SWP version are equipped with a proximity sensor, which can light up the symbols by approaching the unit to approx. 0.25 m.
- SWP/SBP models are also equipped with a sensor of ambient light intensity. Based on information from the sensor it can switch backlight of symbols or perform various actions in the iDM3 software, for example also switch the lighting circuits in the room.

Another view

GSB3-260SW

EAN code
GSB3-40/SW: 8595188156240
GSB3-40/SWP: 8595188188890 (proximity)
Order code
GSB3-40/SW: 8876
GSB3-40/SWP: 8889 (proximity)

EAN code
GSB3-60/SW: 8595188156264
GSB3-60/SWP: 8595188188876 (proximity)
Order code
GSB3-60/SW: 8874
GSB3-60/SWP: 8887 (proximity)

EAN code
GSB3-90/SW: 8595188188265
GSB3-90/SWP: 8595188188852 (proximity)
Order Code:
GSB3-90/SW: 8826
GSB3-90/SWP: 8885

EAN code
GSB3-240/SB: 8595188189620
GSB3-240/SBP: 8595188189682 (proximity)
Order code
GSB3-240/SB: 8962
GSB3-240/SBP: 8968 (proximity)

EAN code
GSB3-260/SB: 8595188189644
GSB3-260/SBP: 8595188189705 (proximity)
Order code
GSB3-260/SB: 8964
GSB3-260/SBP: 8970 (proximity)

EAN code
GSB3-290/SB: 8595188189668
GSB3-290/SBP: 8595188189729 (proximity)
Order Code:
GSB3-290/SB: 8966
GSB3-290/SBP: 8972 (proximity)

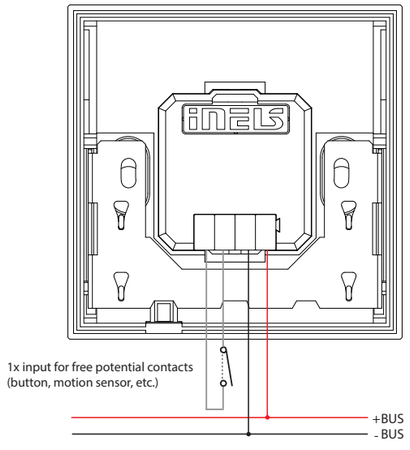
EAN code
GSB3-240/SW: 8595188189637
GSB3-240/SWP: 8595188189699 (proximity)
Order code
GSB3-240/SW: 8963
GSB3-240/SWP: 8969 (proximity)

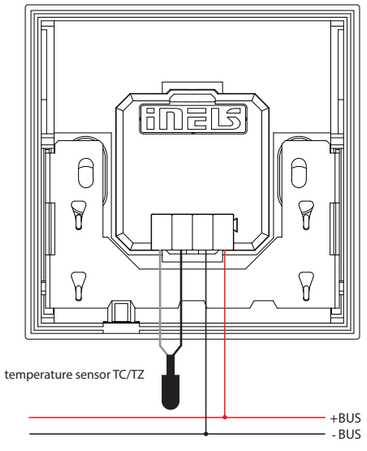
EAN code
GSB3-260/SW: 8595188189651
GSB3-260/SWP: 8595188189712 (proximity)
Order code
GSB3-260/SW: 8965
GSB3-260/SWP: 8971 (proximity)

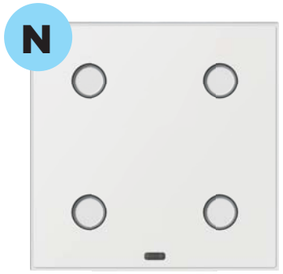
EAN code
GSB3-290/SW: 8595188189675
GSB3-290/SWP: 8595188189736 (proximity)
Order Code:
GSB3-290/SW: 8967
GSB3-290/SWP: 8973 (proximity)

The picture of device is illustrative, the icons (symbols) are configurable by the customer.

Connection







EAN code
ZSB3-40/W: 8595188192552
Order Code: 9255

EAN code
ZSB3-60/W: 8595188192576
Order Code: 9257

EAN code
ZSB3-90/W: 8595188192590
Order Code: 9259

Technical parameters	ZSB3-40	ZSB3-60	ZSB3-90
Inputs			
Temperature measuring:	YES, built-in temperature sensor		
Scope and accuracy of temp. measurement:	0 to +55 °C; 0.3 °C from the range		
Humidity measurement:	YES		
Humidity measurement range:	0 to 99 % RH		
Inputs:	AIN/DIN		
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2		
Type of external sensor:	TC/TZ		
Temperature measurement range:	-20 °C to +120 °C		
Temperature measurement accuracy:	0.5 °C from the range		
Illuminance sensor:	1 to 12 000 Lx		
Buttons			
Number of control buttons:	4	6	9
Type:	button		
Indication:	white illuminated button		
Outputs			
Acustic output:	piezo-changer		
Communication			
Installation BUS:	BUS		
Power supply			
Supply voltage/tolerance:	27 V DC, -20/+10 %		
Dissipated power:	max. 0.5 W		
Rated current:	25-43 mA	25-50 mA	25-50 mA
	(at 27 V DC), from BUS		
Connection			
Terminals:	EIB ø 0.6 - 0.8 mm²		
Operating conditions			
Relative humidity:	max. 80 %		
Operating temperature:	-20 to +55 °C		
Storing temperature:	-30 to +70 °C		
Protection degree:	IP40		
Overvoltage category:	II.		
Pollution degree:	2		
Operation position:	any		
Installation:	on the wall, observing the conditions for correct installation of the sensor		
Dimensions and weight			
Dimensions:	94 x 94 x 40 mm		
Weight:	154 g		
Standards:	EN 63044-1		

- Glass switch buttons ZSB3-40/XX, ZSB3-60/XX and ZSB3-90/XX are part of a comprehensive range of iNELS control units and can be advantageously used in all projects.
- ZSB3 comes with premium glass plates in the white and black.
- ZSB3-40/XX is equipped with four, ZSB3-60/XX six and ZSB3-90/XX nine touch buttons whose functions can easily modify by the software.
- The glass switch button are equipped with an integrated temperature sensor. It is also equipped with analog-to-digital input (AIN/DIN), which can be used to connect potential-free contact or external temperature sensor TC/TZ (for example temperature measurement of the floor).
- Advantages over conventional switches/buttons are saving space, signalling the state of any system output, the ability to measure temperature as well as the ability to connect external buttons or detectors.
- Each button can control any actuator (appliance) in the system. Also, you can assign each button a different function or macro (set of functions). It is therefore possible to use one button to control several appliances at once.
- Glass switch button is a design component of the iNELS system and is available in white and black.
- There is an option upon request to engrave text for each button, further enhancing customization possibilities.
- Individual buttons can be illuminated in white.
- ZSB3-40/XX, ZSB3-60/XX and ZSB3-90/XX are designed for mounting into an installation box.
- All versions are in the size of the standard module (94x94 mm).

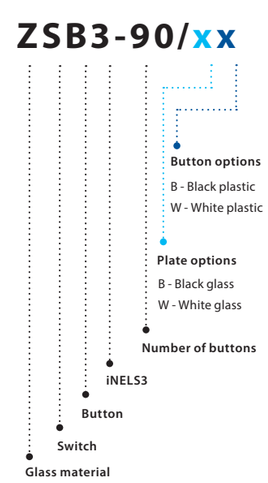
Another view

ZSB3-90/B

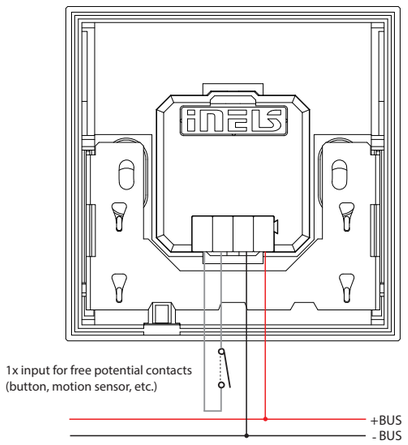
EAN code
ZSB3-40/B: 8595188192545
Order Code: 9254

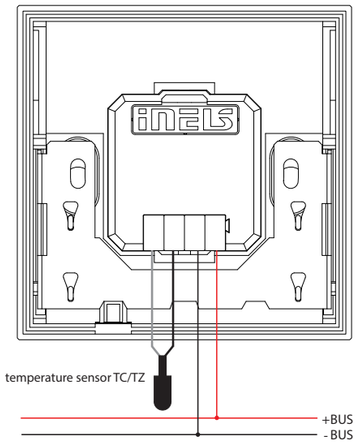
EAN code
ZSB3-60/B: 8595188192569
Order Code: 9256

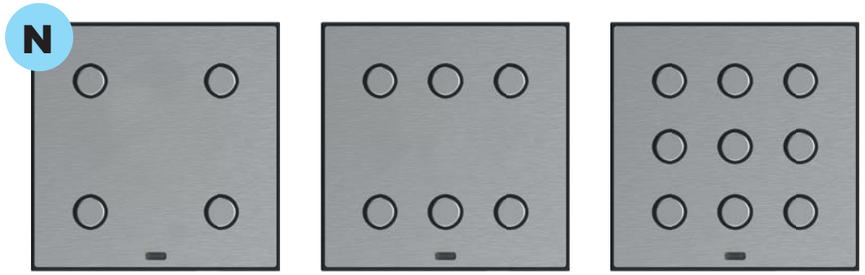
EAN code
ZSB3-90/B 8595188192583
Order Code: 9258



Connection







EAN code
MSB3-40SS: 8595188191364
Order Code: 9136

EAN code
MSB3-60SS: 8595188191449
Order Code: 9144

EAN code
MSB3-90SS: 8595188189460
Order Code: 8946

Technical parameters	MSB3-40	MSB3-60	MSB3-90
Inputs			
Temperature measuring:	YES, built-in temperature sensor		
Scope and accuracy of temp. measurement:	0 to +55 °C; 0.3 °C from the range		
Humidity measurement:	YES		
Humidity measurement range:	0 to 99 % RH		
Inputs:	AIN/DIN		
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2		
Type of external sensor:	TC/TZ		
Temperature measurement range:	-20 °C to +120 °C		
Temperature measurement accuracy:	0.5 °C from the range		
Illuminance sensor:	1 to 12 000 Lx		
Buttons			
Number of control buttons:	4	6	9
Type:	button		
Indication:	white illuminated button		
Outputs			
Acustic output:	piezo-changer		
Communication			
Installation BUS:	BUS		
Power supply			
Supply voltage/tolerance:	27 V DC, -20/+10 %		
Dissipated power:	max. 0.5 W		
Rated current:	25-43 mA	25-50 mA	25-50 mA
	(at 27 V DC), from BUS		
Connection			
Terminals:	EIB ø 0.6 - 0.8 mm²		
Operating conditions			
Relative humidity:	max. 80 %		
Operating temperature:	-20 to +55 °C		
Storing temperature:	-30 to +70 °C		
Protection degree:	IP40		
Overvoltage category:	II.		
Pollution degree:	2		
Operation position:	any		
Installation:	on the wall, observing the conditions for correct installation of the sensor		
Dimensions and weight			
Dimensions:	94 x 94 x 40 mm		
Weight:	154 g		
Standards:	EN 63044-1		

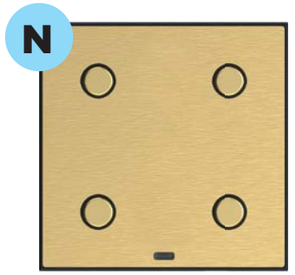
Example

MSB3- XX/BB = Graphite black plate + Graphite black button
MSB3- XX/GG = Satin brass plate + Satin Brass button
MSB3- XX/SS = Brushed silver plate + Brushed silver button
MSB3- XX/CC = Antique copper plate + Antique copper button

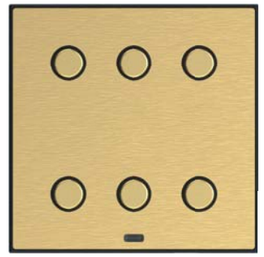
- Metal switch buttons MSB3-40/XX, MSB3-60/XX and MSB3-90/XX are part of a comprehensive range of iNELS control units and can be advantageously used in all projects.
- MSB3 comes with premium metal plates in the antique copper, satin brass, brushed silver, and graphite black finish.
- MSB3-40/XX is equipped with four, MSB3-60/XX six and MSB3-90/XX nine touch buttons whose functions can easily modify by the software.
- The metal switch button are equipped with an integrated temperature sensor. It is also equipped with analog-to-digital input (AIN/DIN), which can be used to connect potential-free contact or external temperature sensor TC/TZ (for example temperature measurement of the floor).
- Advantages over conventional switches/buttons are saving space, signalling the state of any system output, the ability to measure temperature as well as the ability to connect external buttons or detectors.
- Each button can control any actuator (appliance) in the system. Also, you can assign each button a different function or macro (set of functions). It is therefore possible to use one button to control several appliances at once.
- Metal switch button is a design component of the iNELS system and is available in antique copper, satin brass, brushed silver, and graphite black versions.
- There is an option upon request to engrave text for each button, further enhancing customization possibilities.
- Individual buttons can be illuminated in white.
- MSB3-40/XX, MSB3-60/XX and MSB3-90/XX are designed for mounting into an installation box.
- All versions are in the size of the standard module (94x94 mm).

Another view

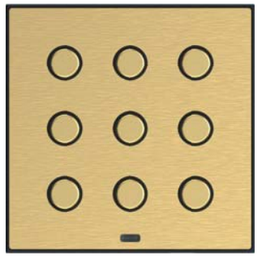
MSB3-90/CC



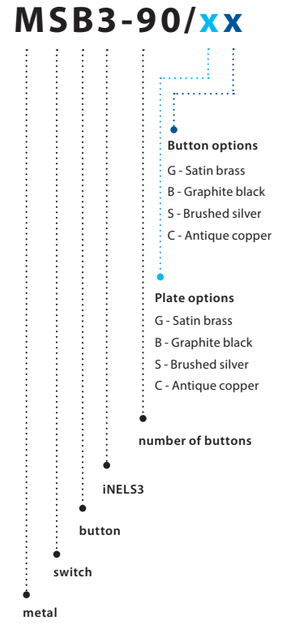
EAN code
MSB3-40GG: 8595188191388
Order Code: 9138

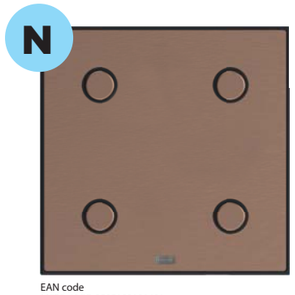


EAN code
MSB3-60GG: 8595188191463
Order Code: 9146

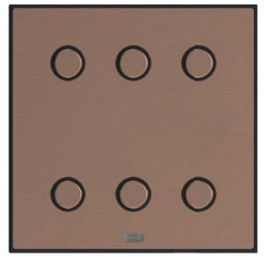


EAN code
MSB3-90GG: 8595188189088
Order Code: 8908

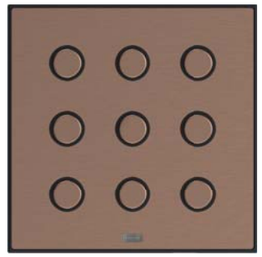




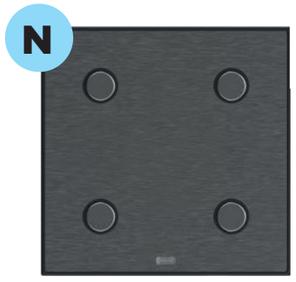
EAN code
MSB3-40CC: 8595188191401
Order Code: 9140



EAN code
MSB3-60CC: 8595188191487
Order Code: 9148



EAN code
MSB3-90CC: 8595188191319
Order Code: 9131

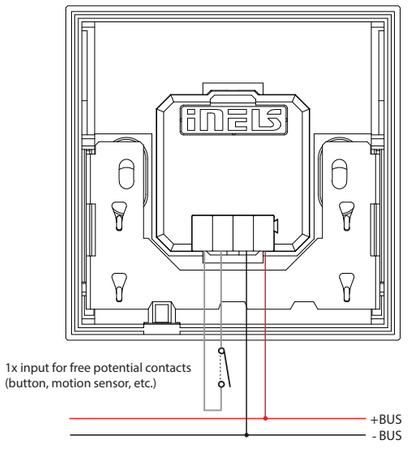


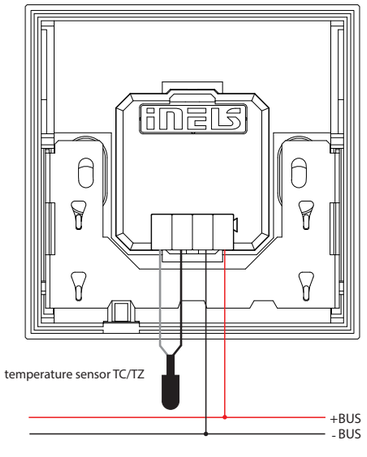
EAN code
MSB3-40BB: 8595188191425
Order Code: 9142

EAN code
MSB3-60BB: 8595188191500
Order Code: 9150

EAN code
MSB3-90BB: 8595188191333
Order Code: 9133

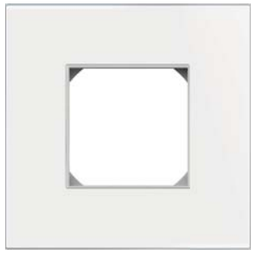
Connection





GSF3/x | Glass socket panels / frames

GSF3/B
B - Black glass
EAN 8595188192453
Order code 9245



GSF3/W
W - White glass
EAN 8595188192460
Order code 9246

Example

B - Black glass

W - White glass

B - Black glass

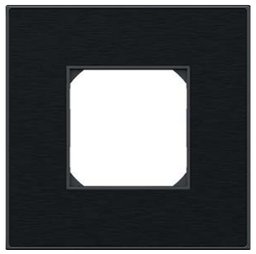
W - White glass

Glass switch buttons
with symbols

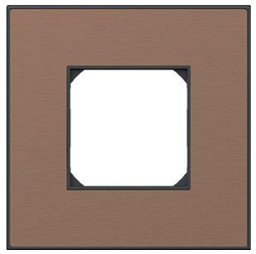
AC power multistandard
socket PMS

USB-A+C sockets & LAN RJ45

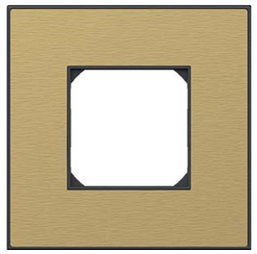
MSF3/x | Metal sockets panels / frames



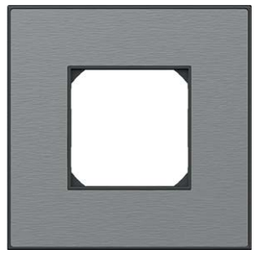
MSF3/B
B - Graphite black
EAN 8595188192446
Order code 9244



MSF3/C
C - Antique copper
EAN 8595188192439
Order code 9243



MSF3/G
G - Satin brass
EAN 8595188192422
Order code 9242



MSF3/S
S - Brushed silver
EAN 8595188192415
Order code 9241

Example

B - Graphite black

C - Antique copper

G - Satin brass

S - Brushed silver

B - Graphite black

C - Antique copper

G - Satin brass

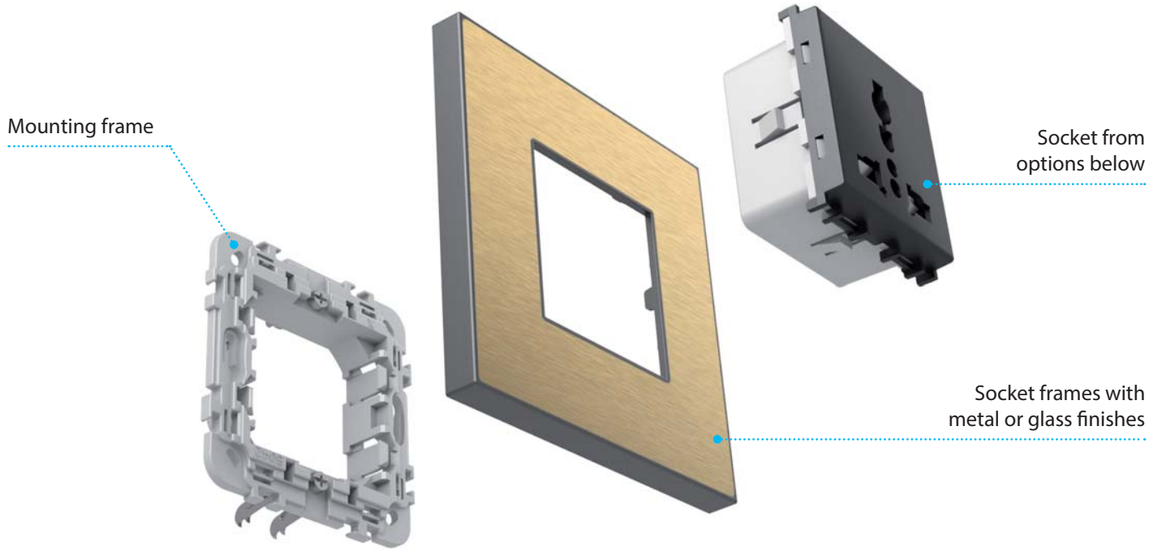
S - Brushed silver

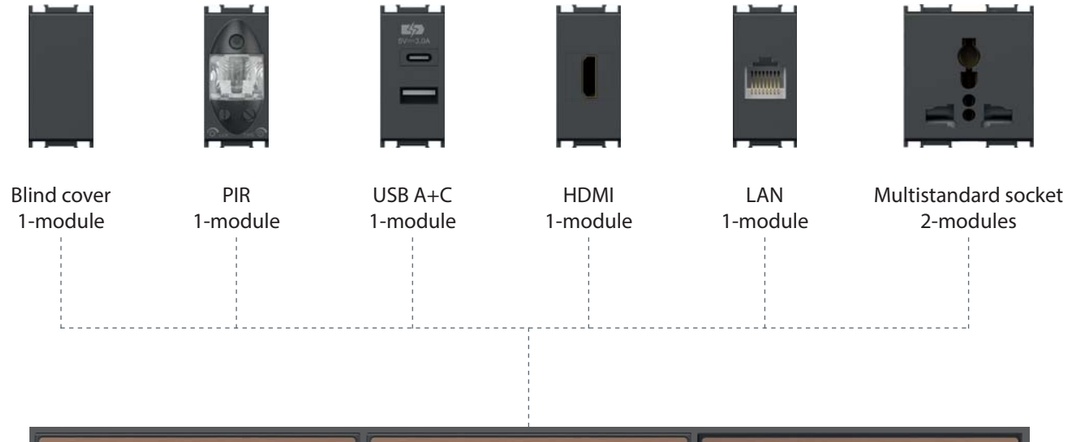
Example Sockets/Frame

TEM socket

	Order code	EAN
SOCKET MULTI-STANDARD+ KS 2P+E 13A 250V~ 2M - plug-in contacts 1.5–2.5 mm² - shuttered live contacts	☐ **VM55MW-U** ☐ **VM55PW-U** ■ **VM55SB-U**	3831006999763 3831006992016 3831006992030
USB POWER SUPPLY UNIT 5V 3,0A - power supply: 100-230V ~ 50/60Hz - power consumption: 300mA at 100V~/150mA at 230V ~ - standby power consumption: 30mW at 230V~ - nominal output voltage: 5 — (±5%) SELV - output ripple voltage: 150mV - nominal output current: - EM68 , EQ68, EE68: 3,0 A (±10 %) ; (Type USB A / USB C) - efficiency: maximum of 77% - operating temperature: 0°C/+45°C (indoor use) - IP protection class: IP20, indoor use only - class device II - overvoltage category (IEC 60364-4-44) CAT II a low-voltage SPD (surge protective devices) in accordance with the EN 61643-11 intended to reduce the overvoltage category III to II must be installed upstream of the USB device - screw contacts: max. 2.5 mm² - device with a contact gap of at least 3mm	☐ **EM68MW-U** ☐ **EM68PW-U** ■ **EM68SB-U**	3831006993549 3831006991248 3831006991262
BLANK 1M - blank modul to fill up empty spaces - in accordance with EN 60669-1 - 2 pcs in a pack	☐ **TM21MW-U** ☐ **TM21PW-U** ■ **TM21SB-U**	3831006995321 3831006933170 3831006933200
ADAPTER KS UNIVERSAL 1M - KS keystone fixing standard - suitable for HDMI, USB - communication module not included	☐ **KM50MW-U** ☐ **KM50PW-U** ■ **KM50SB-U**	3831006993754 3831006949454 3831006949546
SOCKET CAT6 SCH KS RJ45 8/8 1M - KS keystone fixing standard - CAT6 UTP toolless, RJ45 8/8 - in accordance with ISO/IEC 11801	☐ **KM39MW-U** ☐ **KM39PW-U** ■ **KM39SB-U**	3831006993754 3831006949454 3831006949546
CONNECTOR KS HDMI - KS keystone fixing standard - only in combination with adapter KM50 - HDMI/HDMI	**KA27-U**	3831006949430
MOUNTING FRAME WITHOUT SCREWS 2M - mounting frame 2M without screws and without claws - for mounting on boxes Ø60 (HE.., BE..) with screws - possible horizontal or vertical combinations 2x2M, 3x2M and 4x2M - suitable for assembling with cover plates LINE, SOFT, PURE and EDGE - in accordance with EN 60669-1	**NM21-U**	3831006909939

☐ **MW** **matte white**
☐ **PW** **polar white**
■ **SB** **soft touch black**





Icons configurator

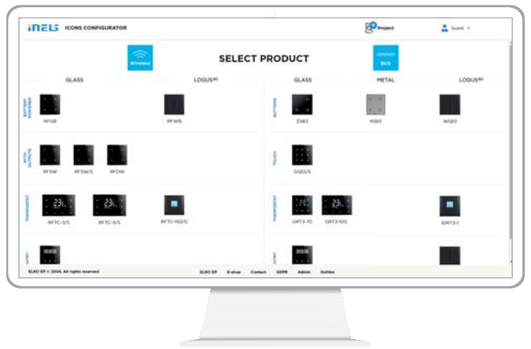
The Icon Configurator for iNELS controllers is a software tool that allows users to customise and personalise the icons used on their iNELS controllers. With this tool, users can choose from a variety of pre-designed icons to suit their specific needs. The Icon Configurator is a powerful tool that gives users complete control over the look and feel of their iNELS control systems, allowing them to create a truly unique and customised user experience.

The features and benefits of the iNELS Icon Configurator for controllers

The iNELS Icon Configurator for controllers offers a range of features that allow for a highly customized user interface. With this tool, users can create personalized icon control buttons in just a few minutes, enabling the creation of good-looking UI's with minimal effort. This customization capability allows for a more tailored user experience, as the interface can be designed to meet the specific needs of the user or application. With the ability to customize the user interface, users can create a control system that is both functional and aesthetically pleasing. One of the key benefits of the configurator is its easy and intuitive configuration process. This intuitive interface makes it easy for users to configure the system without the need for extensive technical knowledge or training.

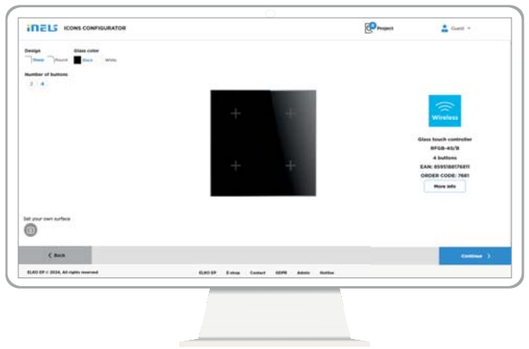
Choice controller

In the first step, select the driver variant.



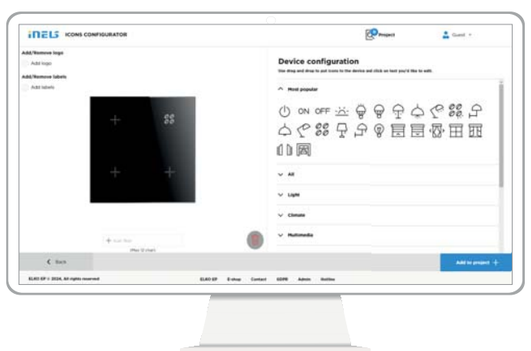
Icons settings

In the second step, we will be shown the quantity that we can use.



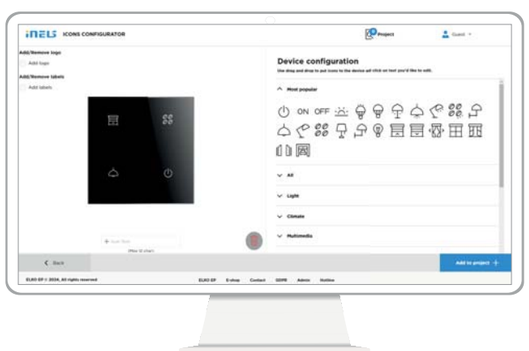
Choice icons

In the third step, you place the icons on the controller according to your preferences.



Icon name

In the last step, we can choose any name we want under the icon on the controller.



Create your glass design here:
icons.inels.com

Standard symbols for laser on plastic key and glass panel

	A	B	C	D	E	F	G	H	I	J	K	L
1										ON	OFF	
2												
3												
4									AUTO			
5												
6												
7												
8												
9												
10												
11												
12												
13												
14												
15												
16									ECO			
17	I	II	III	IIII	IV	V	VI	VII	VIII	IX	X	

IDRT3-1 | Digital room thermo-regulator

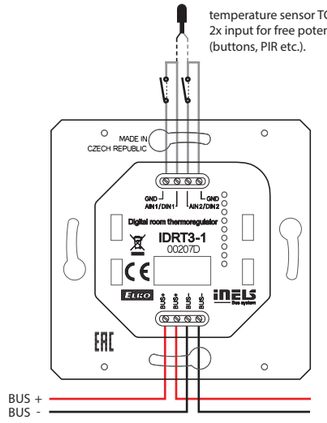
EAN code

IDRT3-1 white:	8595188149488 (device, cover)
IDRT3-1 ivory:	8595188179614 (device, cover)
IDRT3-1 ice:	8595188179591 (device, cover)
IDRT3-1 pearl:	8595188179621 (device, cover)
IDRT3-1 aluminium:	8595188179584 (device, cover)
IDRT3-1 gray:	8595188179607 (device, cover)

Technical parameters	IDRT3-1
Inputs	
Temperature measuring:	YES, built-in thermo sensor
Range/accuracy of temp. measuring:	0 to +55 °C; 0.3 °C from range
Heating/cooling circuit correction:	±3, ±4 or ± 5 °C
Manual control of heating/cooling circuit:	2 x buttons
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2
Type of external sensor:	TC/TZ
Temperature measurement range:	-20 °C to +120 °C
Temperature measurement accuracy:	0.5 °C from range
Communication	
Installation:	BUS
Display:	symbol display
Backlight:	YES
Power supply	
Supply voltage/tolerance:	27 V DC, -20/+10 %
Dissipated power:	max. 0.5 W
Rated current:	20 mA (at 27 V DC), from BUS
Connection	
Terminals:	0.5 - 1 mm²
Operating conditions	
Operating temperature:	0 to +50 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Operation position:	vertical, downward with BUS terminal
Installation:	into installation box
Dimensions and weight	
Dimensions	
- plastic:	85.6 x 85.6 x 50 mm
- metal, glass, wood, granite:	94 x 94 x 50 mm
Weight:	76 g (without frame)
Standards:	EN 63044-1

- IDRT3-1 is a digital wall temperature controller used to regulate the temperature in a room.
- Using the IDRT3-1, it is possible to correct the given heating/cooling circuit within a range of ±3, ±4 or ±5 °C (optional in SW iDM3).
- The temperature controller is equipped with an integrated heat sensor used to measure the room temperature. It is also equipped with two analog digital inputs (AIN/DIN), which can be used to connect two potential free contacts or a single external temperature sensor TC/TZ (e.g. for measuring the floor temperature).
- The display shows the current temperature and after pressing one of two buttons under the display, you can control the desired temperature.
- Readability improves after pressing one of the buttons to activate the backlight.
- Heating/cooling circuit is assigned with a thermo-regulator using iDM3.
- In the case of temperature correction within ±3, ±4 or ± 5 °C, this change is valid until the next time mark within the time schedule established in iDM3.
- IDRT3-1 in design LOGUS⁹⁰ is intended for mounting into an installation box.

Connection



* The choice is made in iDM3 for each unit separately.

EAN code

GRT3-70/B:	8595188191548
GRT3-70/W:	8595188191531
GRT3-270/B:	8595188191562
GRT3-270/W:	8595188191555

Order Code:

GRT3-70/B:	9154
GRT3-70/W:	9153
GRT3-270/B:	9156
GRT3-270/W:	9155

The picture of device is illustrative, the icons (symbols) are configurable by the customer.

Technical parameters	GRT3-70	GRT3-270
Inputs		
Temperature measuring:	YES, built-in temperature sensor	
Scope and accuracy of temp. measurement:	0 to +55 °C; 0.3 °C from the range	
Humidity measurement:	YES	
Humidity measurement range:	0 to 99 % RH	
Humidity measurement accurancy:	± 3 % relative humidity	
Inputs:	1x AIN/DIN	
Resolution:	by setting 10-bit	
External temperature sensor:	YES, the connection between AIN1/DIN1 and AIN2/DIN2	
Type of external sensor:	TC/TZ	
Temperature measurement range:	-20 °C to +120 °C	
Temperature measurement accuracy:	0.5 °C from the range	
Buttons		
Number of control buttons:	7	
Type:	capacitive	
Indication:	coloured illuminated symbol	
Display		
Display:	colored TFT, 26 x 26 mm	
Resolution:	240 x 240 pixels	
Outputs		
Acustic output:	piezo-changer	
Communication		
Installation BUS:	BUS	
Power supply		
Supply voltage/tolerance:	27 V DC, -20/+10 %	
Dissipated power:	max. 0.5 W	
Rated current:	85 mA (at 27 V DC), from BUS	
Connection		
Terminals:	0.3 - 0.8 mm²	
Operating conditions		
Relative humidity:	max. 80 %	
Operating temperature:	-20 to +55 °C	
Storing temperature:	-30 to +70 °C	
Protection degree:	IP20	
Overvoltage category:	II.	
Pollution degree:	2	
Operation position:	any	
Installation:	on the wall, observing the conditions for correct installation of the thermostat	
Dimensions and weight		
Dimensions:	94 x 94 x 41 mm | 100 x 100 x 8 mm	
Weight:	156 g	
Standards:	EN 63044-1	

Create your glass design here:
icons.inels.com

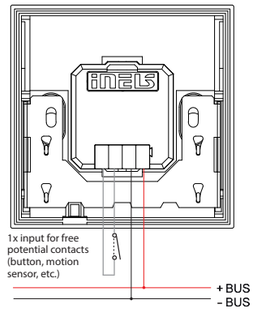
- Glass room thermo-regulator GRT3-70 is part of a comprehensive range of glass iNELS control units for apartments, guest room management system (GRMS) and serves to regulate the temperature in the room.
- Comes with bigger display and new design compared to the previous version GRT3-50.
- GRT3-70 thermo-regulator has a display for displaying the current room temperature and desired temperature. To adjust the required temperature, it is possible to use the touch buttons with symbols "-" and "+".
- GRT3-70 is also suitable for controlling fan coils and fan speed can be easily adjusted by using the touch buttons with symbols.
- Thermo-regulator GRT3-70 also features its touch buttons whose function can be adjusted by software, for example fan coil on/off, heating/cooling or comfort temperature for heating or cooling.
- Thermo-regulator is equipped with an integrated temperature sensor for ambient temperature measurement.
- The glass room thermo-regulator is a design component of the iNELS system and is available in elegant black (GRT3-70/B) and white (GRT3-70/W) version.
- Engraving of symbols is possible upon a request.
- Individual symbols can be illuminated.
- GRT3-70 are designed for mounting into an installation box.
- Custom icon and button configuration icons.inels.com

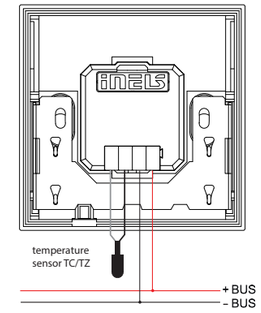
Other variants

GRT3-70/B

GRT3-70/W

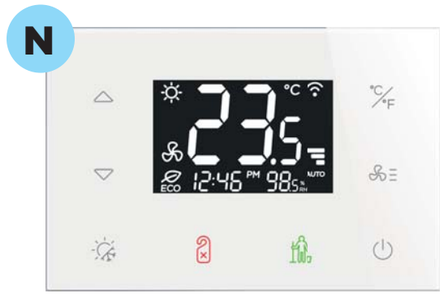
Connection





Another view

GRT3-70/W



EAN code
GRT3-100/W: 8595188191746
GRT3-100/B: 8595188191739

Order Code:
GRT3-100/W: 9174
GRT3-100/B: 9173

The picture of device is illustrative, the icons (symbols) are configurable by the customer.

Technical parameters	GRT3-100/B	GRT3-100/W
Power supply		
Power supply voltage:	110 - 230V AC, 50-60Hz, L and N terminals	
Apparent/loss power input:	5 VA/3 W	
Supply voltage tolerance:	± 10%	
Outputs		
Relays:	5x switching / 5A / 250V AC1 / 1385VA	
Contact life:	mechanical: 10 mil. / electrical 100.000 switches	
Analog Output:	2x 0-10V, 10 mA	
Inputs (external)		
Binary:	ro potential-free contact, terminals IN1/IN2 against GND, maximum wire length 30m	
Temperature:	1x for external temperature sensor TC/TZ, terminals IN1/T & IN2/TC, temperature range -20 to +120 ° C, accuracy ± 0.5 ° C	
Sensors (internal)		
Temperature:	range 0 to +55 °C, accuracy ± 0.5 °C from the range	
Humidity:	0 - 99% RH, accuracy ± 3 °C from the range	
Proximity:	backlight activation when zooming <25 cm	
Lighting:	adaptive backlight control of the display and buttons	
Communications		
iNELS BUS:	BUS	
Control and display		
Display:	LCD (VA/TN), active area 54x34mm	
Buttons:	8x, capacitive, backlit	
Connection		
Terminals (BUS):	0.2 - 1.5 mm2	
Terminals (relay):	min. 0.2 mm2/max 1.5 mm2 with sleeve	
Terminals block:	16 pole, screwless (push-in)	
Mechanics		
Operating temperature:	- 0 to 50 °C / max 90% RH	
Storage temperature:	- 20 to 60 °C	
Enclosure:	IP30 (mounted)	
Overvoltage category:	II.	
Pollution degree:	2	
Working position:	horizontal	
Installation:	on EU or British box with 60 mm bolt spacing	
Dimension:	120x80x27 mm	
Weight:	230g	
Shape/edges:	sharp	
Color (glass and plastic)	White	Black
Standard:	EN 63044-1	

Create your glass design here:
icons.inels.com

- Glass room thermo-regulator GRT3-100 is part of a comprehensive range of glass iNELS control units for apartments, guest room management system (GRMS) and serves to regulate the temperature in the room.
- The glass room thermo-regulator is a design component of the iNELS system and is available in elegant black (GRT3-100/B) and white (GRT3-100/W) version.
- GRT3-100 thermo-regulator has a display for displaying the current room temperature and desired temperature. To adjust the required temperature, it is possible to use the touch buttons with symbols "-" and "+".
- The GRT3-100 is equipped with 5x 8 A relay output for fan speed and valves. It is also equipped with analog-to-digital input (AIN/DIN), which can be used to connect potential-free contact or external temperature sensor TC/ TZ (for example temperature measurement of the room or floor).
- GRT3-100 is also suitable for controlling fan coils and fan speed can be easily adjusted by using the touch buttons with symbols.
- Thermo-regulator GRT3-100 also features its touch buttons whose function can be adjusted by software, for example fan coil on/off , heating/ cooling or comfort temperature for heating or cooling.
- Thermo-regulator is equipped with an integrated temperature sensor for ambient temperature measurement.
- Printing is possible to customize to the investor requirements.
- Individual symbols can be illuminated in one of seven colours - red, green, blue, yellow, pink, turquoise and white.
- GRT3-70 units are designed to be mounted in a mounting box.
- Custom icon and button configuration icons.inels.com

Options: external temperature sensors

TC-0

100 mm

Order code:
209970800010

TC-3

3 m

Order code:
209970800011

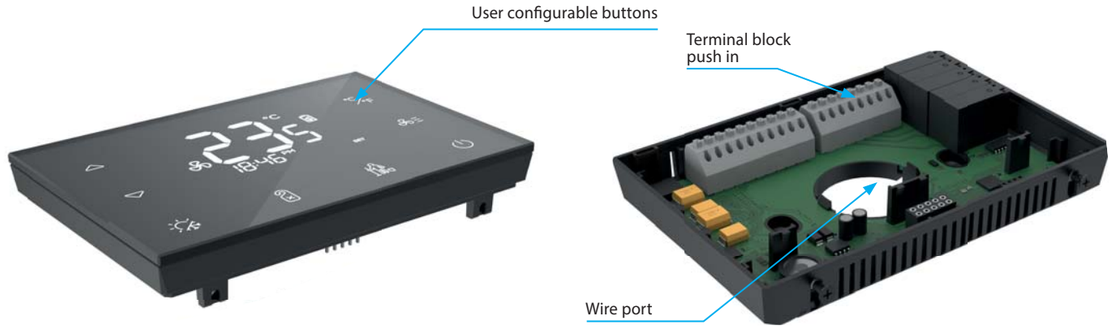
TC-6, TC-12

NTC 12K

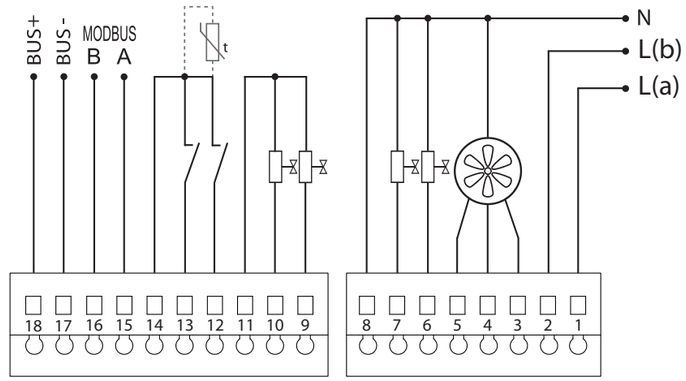
2 x 0,25 mm²

PVC, IP67

Buttons and display description



Connection



1.	L(a)	power supply phase wire
2.	L(b)	phase - identical to phase L(a) - see.*
3.	HIGH	fan top speed
4.	MED	fan medium speed
5.	LOW	fan lowest speed
6.	HEAT	valve 0/1 for heating
7.	COOL	valve 0/1 for cooling
8.	N	neutral wire power supply
9.	1:0-10V	1. analog output 0-10V
10.	2:0-10V	2. analog output 0-10V
11.	GND	common terminal for analog output
12.	IN1	1. binary input for external contact
13.	IN2	2. binary input for external contact
14.	COM	common terminal for binary inputs 1. and 2.
15.	BUS A	Modbus A
16.	BUS B	Modbus B
17.	BUS -	BUS -
18.	BUS +	BUS +

* in the case of an auxiliary heater, it is connected to terminals 6 or 7 (max. 1500 W).

Option for an external temperature sensor TC/TZ

12.	IN1	temperature input NTC
13.	IN2	temperature input NTC

Another view

GRT3-100/W

GRT3-100/B

What is MQTT?

(Message Queuing Telemetry Transport)

MQTT (Message Queuing Telemetry Transport) is a communication protocol designed for efficient and reliable data transmission between devices or applications over a network. It was developed for use in situations where messages need to be sent with minimal overhead and low latency, which is crucial in limited or unstable network conditions, such as the Internet of Things (IoT) or mobile networks.

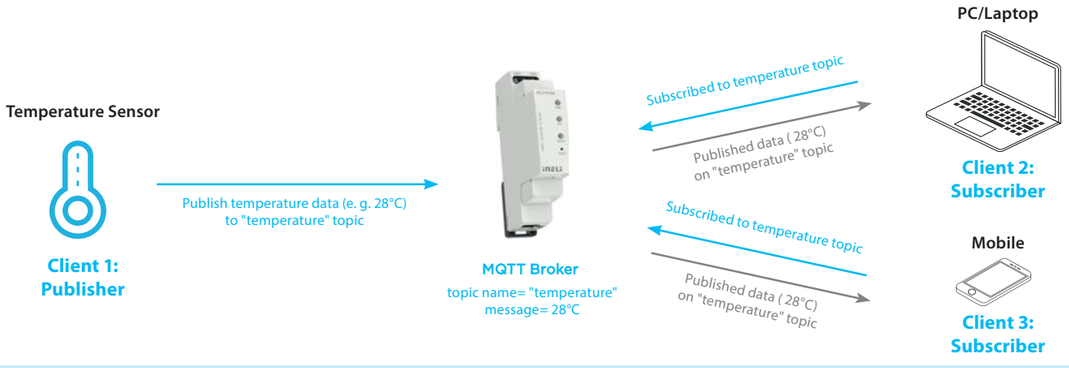
The main features of MQTT

1. Publish-Subscribe Model: MQTT utilizes the "publish-subscribe" model, where clients can publish messages on specific topics, and other clients subscribed to these topics can receive the messages. This model provides a decentralized way of communication and allows a larger number of devices (subscribers) to respond to events from various publishers.
2. Low Data Overhead: The MQTT protocol is designed with efficiency and low data overhead in mind. The message header is very small, reducing bandwidth demands and enabling efficient data transmission even on resource-constrained devices, such as sensors or microcontrollers.
3. QoS (Quality of Service): MQTT allows you to set the level of quality of service for message delivery according to the application's needs. There are three QoS levels:

- **QoS 0:** It provides "at most once" message delivery, meaning messages may be lost, but they are transmitted with minimal overhead.
- **QoS 1:** It ensures "at least once" message delivery, but there may be instances of duplicate delivery.
- **QoS 2:** It guarantees "exactly once" message delivery, which is the most reliable level but requires the most overhead.

4. Retained Messages: MQTT allows the broker to retain the last message on a specific topic. When a new client subscribes to that topic, it immediately receives this retained message. This is useful, for example, in situations where we want to obtain the current state of a device after it connects.
5. Easy Connection: MQTT is designed to make it easy to connect to a broker and start publishing or subscribing to messages. MQTT client implementations are available for various platforms and programming languages, making it easy to integrate them into different applications.
6. Broad Support: MQTT is supported by a wide range of devices and platforms, making it an ideal choice for communication in IoT environments and other applications that require reliable and low-overhead communication.

Thanks to these features, MQTT has become a popular protocol for communication in IoT, sensor networks, telemetry, tracking systems, and other applications where efficient and reliable data transmission over the network is crucial.



iNELS supports MQTT

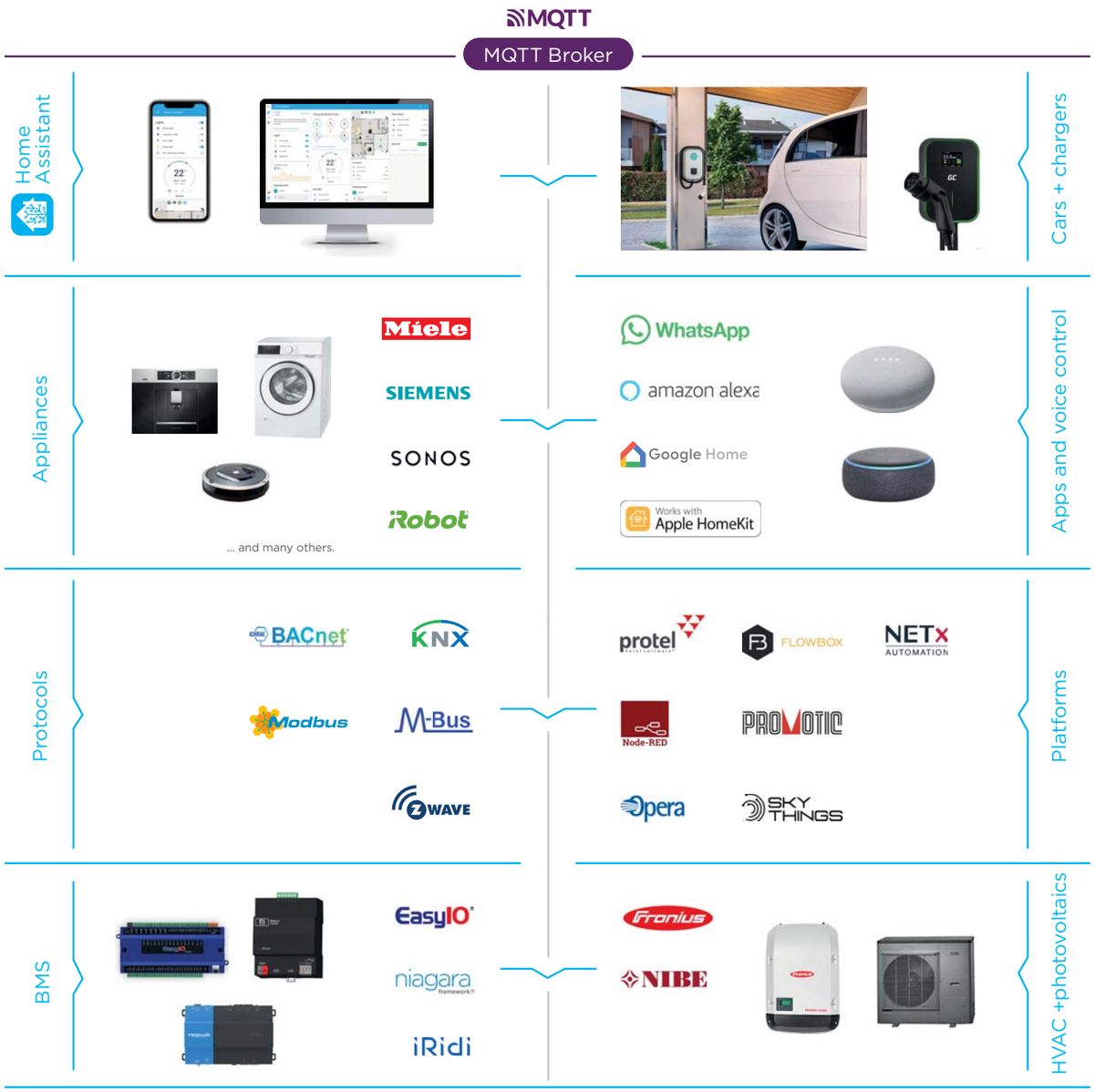
The iNELS gateways, both in wired (CU3-07/08M) and wireless (eLAN-RF-103) versions, have implemented bidirectional MQTT communication. In practice, this means that real-time data from all iNELS system components are sent to the MQTT Broker (iNELS Bridge). Additionally, thanks to the bidirectional communication, these components can be freely controlled.
This approach makes the iNELS system open for easy integration into superior BMS (Building Management Systems) and PMS (Property Management Systems). It can be easily connected to third-party systems and implemented into various applications.

iNELS Bridge

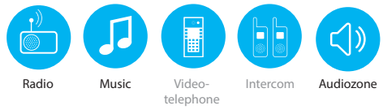
The revolutionary iNELS Bridge device is unique in that it combines several technologies. Its core feature is the pre-installed MQTT Broker, a software platform that will receive, store, and mediate all MQTT communication within one or even multiple installations.

Home Assistant

Home Assistant is a popular environment for creating and managing all automation systems. In this environment, users or administrators can create their own scenarios or automations across different technologies within the property. An integral part of this is a user-friendly application for mobile platforms or computers.



LARA Radio



- A music and internet radio player - all in the dimension of a switch and a luxurious LOGUS^{90} design.
- LARA Radio - when connected to the Internet, it can play streaming radio stations and you can store up to 40 of them. But you can also select from thousands of radio stations from across the globe, which provide data for correct connection.
- LARA Radio can play content from an external music source, which can be an smart phone or e.g. an MP3 player. These devices are connected to a 3.5mm stereo jack audio input, located underneath the front panel.
- Touch control is performed on the device front panel (six capacity buttons available), or LARA Dio.
- The basic device settings (network connection, language, audio input) are performed via the display and a simple menu controlled from capacity buttons on the device front cover. Further settings (selection of stations, connection with the server, updating firmware, etc.) are configured via computer and the software LARA Configurator.
- LARA Radio is equipped with an OLED colored display with the size of 1.5“. The display also shows basic information about playing music, which also serves the orientation in the menu settings, etc.
- LARA Radio has an integrated amplifier with 2x 10 W output, thus greatly facilitating device installation in places where such output suffices. LARA is used e.g. to provide premium sound to the kitchen, bathrooms, waiting rooms, offices, reception desks, entrance halls, operating rooms or wellness facilities.
- LARA is powered by PoE with maximum voltage level 27 V DC/ 1000 mA. So connecting and communicating with just one cable (UTP) is a major advantage.
- For LARA, an entire series of accessories is ready for connection (PoE adapters, PoE switches), speakers (in a frame, walls or ceilings) and installation (cables, box, etc.).
- Complies with standards IEEE 802.3u (100BASE-Tx).
- Automatic cable crossing detection of Ethernet cable - MDIX.

Technical parameters	LARA Radio
Internet Radio	
Supported data transfer formats:	mp3, ogg, acc
Control/Settings	
Front panel:	touchscreen buttons
Communication Ethernet:	via PC setting up and communicating SW LARA Configurator
Button RESET:	restart product/ reset product to factory settings
Interface ethernet	
Communications interface:	10/100 Mbps
Connector:	RJ45
Max. cable length UTP with power:	50 m
Display	
Type:	color OLED
Resolution:	128 x 128 pixels
Visible surface:	26 x 26 mm
Power supply	
Supply:	Passive PoE 24 V DC/1.25 A
Min. input:	1.4 W
Max. input:	26 W (peak at maximum playback performance)
Amplifier	
Amplifier:	stereophonic class D with digital output control
Max. amplifier output:	2 x10 W/8 Ω
Inputs/Outputs	
Microphone:	NO
Audio input:	3.5 stereo jack
Audio output 1:	terminals LINE OUT (used for external amplifier)*
Audio output 2:	terminals OUT L/OUT R (speaker output from int. amplifier)
Connection	
Terminal block:	0.5 - 1 mm^2
Other data	
Working temperature:	0 to + 55 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Installation:	in an installation box
Dimensions and weight	
Dimensions:	
- plastic:	85 x 85 x 46 mm
- metal, glass, wood, granite:	94 x 94 x 46 mm
Weight:	209 g (plastic frame
Standard:	EN 63044-1, EN 62368-1

* The cable from the LINE OUT terminals must be shielded, max. length should not exceed 5 m.

EAN code

LARA Radio white:	8595188148719
LARA Radio ivory:	8595188149242
LARA Radio ice:	8595188149228
LARA Radio pearl:	8595188149259
LARA Radio aluminium:	8595188149211
LARA Radio grey:	8595188149235

LARA Intercom

- LARA Intercom offers users 5 different functions and expands even more options to Lara Radio - music players and internet radio stations within the range of LOGUS^{90} switch designs.
- LARA Intercom provides an extra functionality and videophone intercom.
- Thanks to videophone function, now it is possible to have a voice communication between LARA and the sound of the door (IP Intercom), so with someone visiting and standing in front of the house, we can see that on LARA display as part of this function which increases the security feeling and safety besides of course, the comfort for the user.
- LARA Intercom is equipped with an OLED colored display with the size of 1.5“, which is used to transfer images and sounds from the door camera properly. The display also shows basic information about playing music, which also serves the orientation in the menu settings, etc.
- The intercom function can also be used for communications between all the family members throughout the whole house, thanks to two way voice communications possibilities between differnt LARA units.
- LARA Intercom continues to offer three functions that are also supported by LARA Radio - when connected to the Internet, it can play streaming radio stations and you can store up to 40 of them. But you can also select from thousands of radio stations from across the globe, which provide data for correct connection.
- LARA Intercom can play content from an external music source, which can be an smart phone or e.g. an MP3 player. These devices are connected to a 3.5mm stereo jack audio input, located underneath the front panel. You can also use LARA for streaming your favorite music from Spotify Premium.
- Touch control is performed on the device front panel (six capacity buttons available), or LARA Dio.
- The basic device settings (network connection, language, audio input) are performed via the display and a simple menu controlled from capacity buttons on the device front cover. Further settings (selection of stations, connection with the server, updating firmware, etc.) are configured via computer and the software LARA Configurator.
- LARA Intercom has an integrated amplifier with 2x 10 W output, thus greatly facilitating device installation in places where such output suffices. LARA is used e.g. to provide premium sound to the kitchen, bathrooms, waiting rooms, offices, reception desks, entrance halls, operating rooms or wellness facilities.
- LARA is powered by PoE with maximum voltage level 27 V DC/ 1000 mA. So connecting and communicating with just one cable (UTP) is a major advantage.
- For LARA, an entire series of accessories is ready for connection (PoE adapters, PoE switches), speakers (in a frame, walls or ceilings) and installation (cables, box, etc.).
- Complies with standards IEEE 802.3u (100BASE-Tx).
- Automatic cable crossing detection of Ethernet cable - MDIX.

Technical parameters	LARA Intercom
Internet Radio	
Supported data transfer formats:	mp3, ogg, acc
Control/Settings	
Front panel:	touchscreen buttons
Communication Ethernet:	via PC setting up and communicating SW LARA Configurator
Button RESET:	restart product/ reset product to factory settings
Interface ethernet	
Communications interface:	10/100 Mbps
Connector:	RJ45
Max. cable length UTP with power:	50 m
Display	
Type:	color OLED
Resolution:	128 x 128 pixels
Visible surface:	26 x 26 mm
Power supply	
Supply:	Passive PoE 24 V DC/1.25 A
Min. input:	1.4 W
Max. input:	26 W (peak at maximum playback performance)
Amplifier	
Amplifier:	stereophonic class D with digital output control
Max. amplifier output:	2 x10 W/8 Ω
Inputs/Outputs	
Microphone:	YES
Audio input:	3.5 stereo jack
Audio output 1:	terminals LINE OUT (used for external amplifier)*
Audio output 2:	terminals OUT L/OUT R (speaker output from int. amplifier)
Connection	
Terminal block:	0.5 - 1 mm^2
Other data	
Working temperature:	0 to + 55 °C
Protection degree:	IP20
Overvoltage category:	II.
Pollution degree:	2
Installation:	in an installation box
Dimensions and weight	
Dimensions:	
- plastic:	85 x 85 x 46 mm
- metal, glass, wood, granite:	94 x 94 x 46 mm
Weight:	209 g (plastic frame)

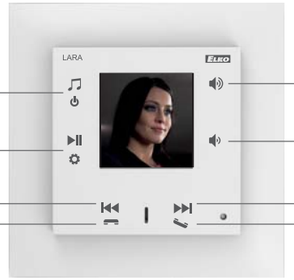
* The cable from the LINE OUT terminals must be shielded, max. length should not exceed 5 m.

EAN code

LARA Intercom white:	8595188149389
LARA Intercom ivory:	8595188149419
LARA Intercom ice:	8595188149396
LARA Intercom pearl:	8595188149426
LARA Intercom aluminium:	8595188149372
LARA Intercom grey:	8595188149402

Specification LARA

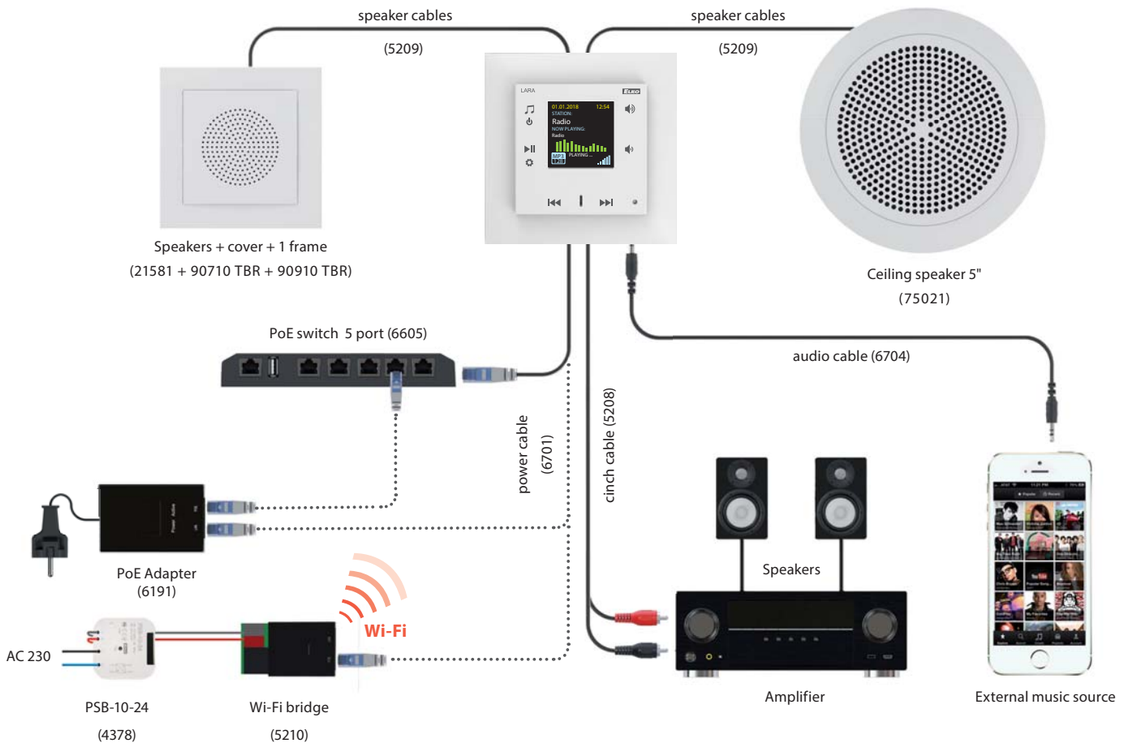
Touchscreen operation



Applications control

Operations, using the application for, LARA Dio and iNELS Home Control for Android and iOS smartphones and tablets.

Wiring example



Accessories LARA

Speakers and cables

		order code
	**AUX CABLE LARA (LARA CINCH CABLE)** Used to connect LARA with exter. amplifier. Reduction 4pin from LARA LINE OUT to 2x CINCH plug into amplifier, length 2 x 20 cm.	5208
	**POWER SUPPLY (PSB-10-24)** Switching stabilized power supplies with fixed output voltage, intended for mounting into an installation box (e.g. KU-68). PSB-10-24 - stabilized power supply 24V/10 W.	4378
	**AUX CABLE LARA (LARA AUDIO CABLE)** Used to connect LARA with external music source (smart phone mp3 player). The length is 20 cm terminated with 2x stereo jack 3.5 mm.	6704
	**CEILING SPEAKER** Speaker is suitable for the installation in suspended ceilings and hollow walls. Mounting hole diameter 143 mm, Power 8 W, 32 Ω speaker impedance.	75021 CBR
	SURFACE SPEAKER Two-way speaker intended for mounting in a ceiling or on the walls: Power 15 W, 32 Ω speaker impedance, dimensions 270x183x37 mm. Color: White	75106 CBR
	**NETWORK CABLE, 0.2 m** Flat white LAN cable CAT5, length 20 cm, terminated with 2x RJ45 plugs.	6702
	**NETWORK CABLE, 1 m** Flat white LAN cable CAT5, length 1 m, terminated with 2x RJ45 plugs.	6700

Power supply and network

	**WI-FI BRIDGE** Used for LARA wireless connection via WiFi network.	5210
	**PoE SWITCH - 5x RJ45** Provides LAN connectivity and PoE power supply for up to 5 x LARA.	6605
	**PoE SWITCH - 8x RJ45** Provides LAN and connected PoE of up to 8x LARA. In addition to the 24 V PoE also offers a 48 V PoE for the power supply of 2N.	6606

Power sets

	**POWER SUPPLY PoE + WiFi INTO OR THE BOX** WiFi bridge with PoE and power supply into an installation box. Power supply 230 V.	5224
	**POWER SUPPLY PoE INTO A BOX** PoE injector with power supply intended for an installation box. Power supply 230 V.	5226
	**PoE SUPPLY** Power injector with plug-in adapter 230 V.	5225
	**POWER SUPPLY PoE + WiFi** WiFi bridge with PoE plug in adapter 230 V.	5227

Installation material

		order code
	**1-FRAME**	90910 TBR
	**2-FRAME**	90920 TBR
	**3-FRAME**	90930 TBR
	**4-FRAME**	90940 TBR
	**5-FRAME**	90950 TBR
	**SURFACE MOUNT BOX**	10976 ABR
	**INSTALLATION BOX 1 GANG (KP 67/2)**	6705
	**INSTALLATION BOX 2 GANG (KP 64/2)**	6706
	**INSTALLATION BOX 3 GANG (KP 64/3)**	6707
	**INSTALLATION BOX 4 GANG (KP 64/4)**	6708
	**INSTALLATION BOX 5 GANG (KP 64/5)**	6709
	**INSTALLATION BOX 1 GANG (KP 64/LD)**	6710
	**INSTALLATION BOX 2 GANG (KP 64/2L)**	6711
	**INSTALLATION BOX 3 GANG (KP 64/3L)**	6712
	**INSTALLATION BOX 4 GANG (KP 64/4L)**	6713
	**INSTALLATION BOX 5 GANG (KP 64/5L)**	6714
	**UNIVERSAL BOX 1068-02**	6716
	**UNIVERSAL BOX KUH 1/L NA**	6717

iNELS APP

The application allows easy control of connected devices through wireless and wired gateways, such as socket switching, dimming lights, controlling blinds or garage doors, managing heating circuits, and compatible air conditioning. It also displays available values, such as temperature, status of motion detectors, windows, doors, or flood detectors, as well as the current status of all controlled devices.

Newly, the application can be installed on tablets, where all control options are fully preserved, just like in the standard application. The user-friendly Dashboard on the tablet enables users to view frequently used devices, previews of connected cameras, and created scenes. Users can quickly and easily control multiple devices at once with a single click. Furthermore, it is now possible to integrate SIP-enabled Intercoms, allowing call notifications and door unlocking from anywhere in the world. Another new feature includes receiving notifications related to units connected to the account. With the new iNELS mobile application, we are opening a completely new stage, expanding the functions and integration possibilities of the iNELS system.

In addition to the iNELS mobile application, there is also the inels.cloud platform available. This website allows users to control devices connected to inels BUS and RF gateways through the cloud. The platform offers advanced features, including the ability to configure custom Dashboards, view historical device data, and conditionally interconnect RF and BUS units. This feature allows users to set conditions to respond to specific events or interconnect devices with each other. Another useful function is push notifications, which inform users about important events or device statuses. With the inels.cloud platform, user management is also possible, enabling account owners to add additional users and restrict their rights to control specific devices.

Thanks to these new updates and features, the iNELS mobile application and inels.cloud platform expand the possibilities and integration options of the iNELS system, providing users with an enhanced and seamless smart home experience.

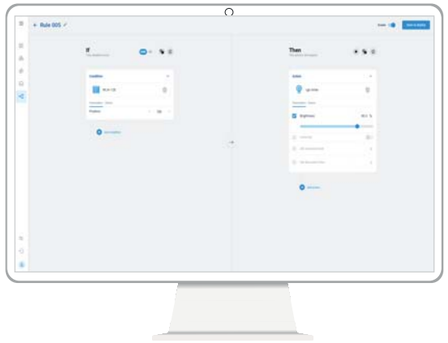
Wireless	Electroinstallation	BUS	
		Lighting control	•
		Garage doors and gates	•
		Switching appliances	•
		RGB bulbs and LED strips	•
		Scenes	•
		Detectors/sensors	•
	HVAC	Heating	•
		Air conditioning	•
		Recuperation	•
	3rd party	Cameras	•
		Weather station	•
		Intercoms	•
		Home appliances	•
	Voice assistants	Google Home	•
		Amazon Alexa	•
	Others	Automation	•
		Notification	•
		Favourites/overview	•
		Log history	•
		Weather data	•
		Users management	•

GET IT ON Google Play

Download on the App Store

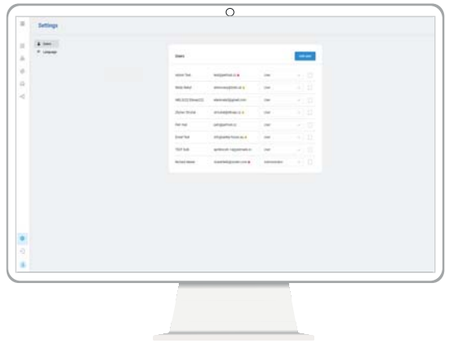
Conditions

Unlimited automation options.



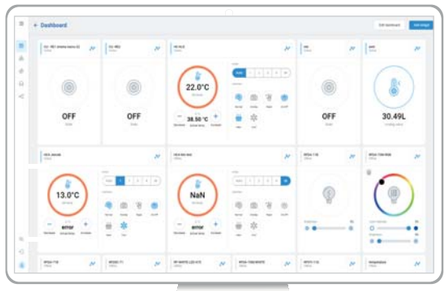
User management

Control of user accounts.



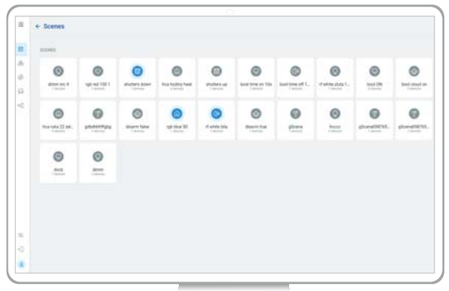
Dashboard

Device overview with the option to view event history.



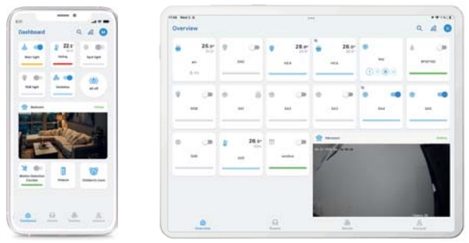
Scenes

Group device control.



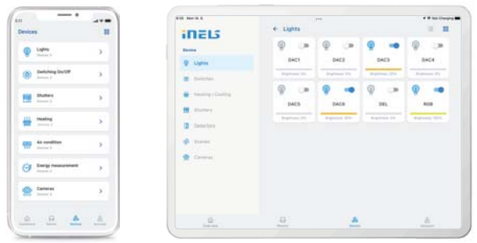
Dashboard

Absolute control over the state of all technologies.



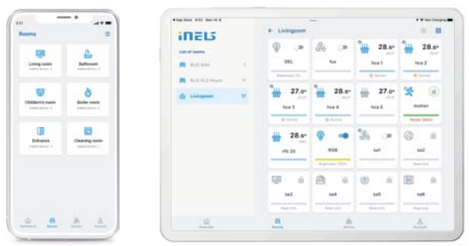
Device list

Control the device from anywhere.



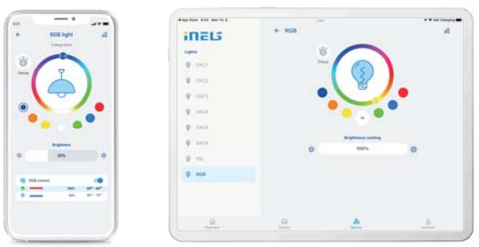
Rooms management

Settings according to individual rooms.



Colour setting

Easy adjustment of the light scene with one touch - switching, dimming, colour.



TELVA-2 230V, TELVA-2 24V | Thermodrive

EAN code
Telva-2 230V, NC: 8595188181976
Telva-2 230V, NO: 8595188181969
Telva-2 24V, NC: 8595188181990
Telva-2 24V, NO: 8595188181983

Technical parameters	TELVA 230V NO | NC	TELVA 24V NO | NC
Operating voltage:	230 V, 50/60 Hz	24 V, 50/60 Hz
Switching current max:	300 mA	500 mA
Operating current:	13 mA	100 mA
Closing/opening time:	3–5 min	3–5 min
Power imput:	2.9 W	2.4 W
Protection:	IP54	IP54
Settings:	4 mm (0.16")	4 mm (0.16")
Stopping force:	90–110 N	90–110 N
Cable lenght:	800–1000 mm (31–39")	800–1000 mm (31–39")
Connecting wire:	2 x 0.75 mm^2	2 x 0.75 mm^2
Media temperature:	-5 °C to 60 °C (23 to 140 °F)	-5 °C to 60 °C (23 to 140 °F)
Colour:	white RAL 9003	white RAL 9003
Dimensions h/w/d:	63 x 42 x 45 mm (2.5 x 1.7 x 1.8 ")	63 x 42 x 45 mm (2.5 x 1.7 x 1.8 ")
Connection size:	M30 x 1.5 mm (1.2" x 0.06")	M30 x 1.5 mm (1.2" x 0.06")

- Thermodrive is intended for opening or closing valves in heating, cooling or air conditioning systems. It is also suitable for use in a floor heating or ceiling cooling manifolds.
- Available in NO (open without voltage), NC (closed without voltage) and for 230 V and 24 V.
- The internal principle of operation of thermodrive mechanism = its movement so that the valve opens/closes is provided by an electric heating element with expansion material, which expands due to temperature changes in the supply voltage.
- Thermodrive is maintenance-free and works completely silently.
- Thermodrive is fitted with a metal nut M30 x 1.5, thanks to which it becomes a 100% fixed part of the valve with this corresponding thread size after installation.
- The stated nut size predetermines the use of a thermocouple with valves from manufacturers such as Herz, HoneyWell, Danfoss, Oventrop and others.

- **Telva thermo drive:**
  - is characterized by absolutely quiet and maintenance-free operation
  - is designed for installation - control of heating and cooling systems
  - method of mounting the actuator on the controlled valve using an M30 x 1.5 nut
  - any working position

- **Type of use:**
- Floor heating – the RFTC-50/G wireless controller measures the room temperature and, based on the set program, sends a command to the RFSA-66M switching element to open/close the TELVA thermo drive on the distributor.

AN-I | Internal antenna

- into plastic switchboard
- rod angle, without cable
- sensitivity 1 dB

- the internal antenna is included in the standard package

EAN code
Internal antenna AN-I: 8595188161862

AN-E1 | External antenna

- for mounting into metal switchboard
- cable length 3m
- sensitivity 5 dB

- the external antenna AN-E is supplied on request only

EAN code
External antenna AN-E: 8595188190121

TC, TZ, Pt100 | Thermo sensors

EAN code

TC-0:	8595188110075	TZ-0:	8595188140591	Pt100-3:	8595188136136
TC-3:	8595188110617	TZ-3:	8595188110600	Pt100-6:	8595188136143
TC-6:	8595188110082	TZ-6:	8595188110594	Pt100-12:	8595188136150
TC-12:	8595188110099	TZ-12:	8595188110587		

Technical parameters	TC	TZ	Pt100
Range:	-20 to +80 °C	-40°C to +125 °C	-30°C to +200 °C
Scanning element:	NTC 12K	NTC 12K	Pt100
Tolerance:	±(0.15 °C + 0.002|t|)	±(0.15 °C + 0.002|t|)	±(0.3 °C + 0.005|t|)
In air/in water:	(τ0.5) ≤ 18 s	(τ65) 62 s/8 s	(τ0.5) -/7 s
In air/in water:	(τ0.9) ≤ 48 s	(τ95) 216 s/23 s	(τ0.9) -/19 s
Cable material:	PVC unshielded, 2x 0.25 mm^2	PVC	shielded silicone 2 x 0.22 mm^2
Terminal material:	polyamid	stainless steel	copper
Protection degree:	IP67	IP67	IP67
Electrical strength:	2500 VAC	2500 VAC	2500 VAC
Insulation resistance:	> 200 MΩ at 500 VDC	> 200 MΩ at 500 VDC	> 200 MΩ at 500 VDC
Types of temperature sensors:			
	TC-0	**TZ-0**	-
- length:	100 mm	110 mm	-
- weight:	5 g	4.5 g	-
	TC-3	**TZ-3**	**Pt100-3**
- length:	3 m	3	3 m
- weight:	70 g	106 g	68 g
	TC-6	**TZ-6**	**Pt100-6**
- length:	6 m	6 m	6 m
- weight:	130 g	216 g	149 g
	TC-12	**TZ-12**	**Pt100-12**
- length:	12 m	12 m	12 m
- weight:	250 g	418 g	249 g

τ65 (95): time, which sensor needs to heat up on 65 (95) % of ambient temperature of environment, in which is located.

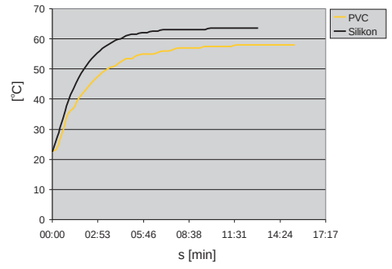
- Thermister temperature sensors are made of Negative Temperature Coefficient (NTC) embedded in a PVC or metal sleeve with a thermally-conductive sealer.
- **Sensor TC**
  - lead-in cable to sensor TC is made of wire CYSY 2D x 0.5 mm/0.02".
- **Sensor TZ**
  - cable VO3SS-F 2D x 0.5 mm/0.02" with silicone insulation for use in high temperature applications.
  - silicone insulation for use in high temperature applications.
- **Sensor Pt100**
  - shielded silicon 2x 0.22 mm^2 (AWG 21), shielding connected with a case.
- temperature sensors can be connected directly to the terminal block
- cable lengths can not be changed, connected or modified.

Resistive values of sensors in dependance on temperature

Temperature (°C)	Sensor NTC (kΩ)	Sensor Pt100 (Ω)
20	14.7	107.8
30	9.8	111.7
40	6.6	115.5
50	4.6	119.4
60	3.2	123.2
70	2.3	127.1

Tolerance of sensor NTC 12 kΩ is ± 5% by 25 °C/77 °F.
Long-term resistence stability by sensor Pt100 is 0.05% (10 000 hours).

Diagramm of sensor warm up via air



PVC - reaction to water temperature from 22.5 1°C to 58°C.
Silicone - reaction to water temperature from 22.5°C to 63.5°C.

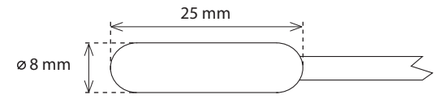
Sensor photo

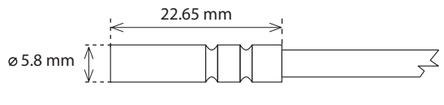
TC

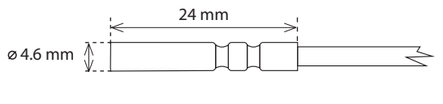
TZ

Pt100

Drawing







INSPINIA

Inspiration for your living space.

INSPINIA

iNELS, in partnership with Inspinia, introduces the new touch control panels. These models, including INS4SQ, INS8SQ, and INS10SQ come in 4, 8, and 10-inch displays respectively.

Designed to deliver top-notch smart touch technology, these panels are equipped with the Skythings framework, which operates on Linux or Android systems. Skythings is integral to smart home, building management, and energy management solutions, providing extensive capabilities for integrators through its cloud-based Skyplatform.

More about Inspinia >
www.elkoep.com/touch-unit-inspinia

INS4SQ	
Display:	4" touch screen
Ports:	1 add-on port
Ideal for:	Apartments, flats, office rooms, hotel rooms

INS8SQ	
Display:	8" touch screen
Ports:	2 add-on port
Ideal for:	Larger spaces requiring enhanced control

INS10SQ	
Display:	10" touch screen
Ports:	2 add-on port
Ideal for:	High-end residential and commercial applications

- The INS4SQ, INS8SQ, and INS10SQ are part of the Inspinia Touch Series, which are advanced touch control panels designed for smart home and building management systems.
- All three models are equipped with the Skythings framework, which can operate on either Linux or Android systems.
- This framework is essential for integrating smart home, building management, and energy management solutions.

- The INS4SQ offers a feature-rich and versatile solution for control and monitoring applications, with its powerful hardware, user-friendly display, and support for various interfaces and sensors. Its temperature and humidity tolerance make it a reliable choice in different operating environments.
- Featuring a high-quality 4" IPS display with a resolution of 480 x 480 and a luminance of 400 cd/m2, the INS4SQ offers crisp and clear visuals for an excellent user experience.
- The device runs on Linux 3.4 operating system supporting up to 200 UI objects and 1000 BMS points.
- Equipped with an ARM A7 Single-Core 1.2 GHz processor, 128MB DDR3 RAM, and 256MB Nand flash, ensuring reliable performance for various applications.
- Integrated with essential sensors, the device includes a humidity sensor with a range of 0% up to 100% RH and a temperature sensor covering a range from -40°C up to +125°C, enabling efficient environmental monitoring.
- The INS4SQ comes with a standard LAN RJ45 10/100Mbps interface, ensuring easy network connectivity for data transfer and communication.
- The INS4SQ offers a variety of optional interfaces for enhanced connectivity and compatibility. These include iNELS, RS485, Modbus, VRF, and Zigbee 3.0
- The INS4SQ operates within a working temperature range of -10°C to +60°C.
- The device can be powered by either 24VDC or 48VDC input, and it also supports Power over Ethernet (POE IEEE 802.3af), providing flexibility in power options.
- Configuration, programming and update applications over the Skythings platform.

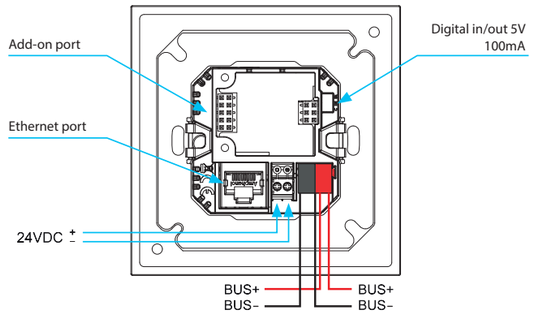
Technical parameters	INS4SQ
Hardware / Software	
Hardware:	ARM A7 Single-Core 1.2 GHz / 128MB DDR3 Ram / 256 MB Nand flash
Software:	OS Linux 3.4
Display	
Type:	IPS 4" 480 x 480 resolution
Display:	400 cd/m2 luminance
Touch part:	5 Point capacitive touchscreen
Power Supply	
Supply voltage/tolerance:	24VDC -or- 48 VDC In
PoE:	POE IEEE 802.3af
Dissipated power:	Power consumption max. 10W
Connection	
Standard Interfaces:	(1x) LAN RJ45 10/100Mbps interface (1x) Add-On (optional interface) Port (1x) Digital Out (open collector 5V 100mA) (1x) Digital In
Optional Interfaces	
	iNELS BUS
	RS485 (EIA-485) (RS4)
	Galvanic isolated RS485 Modbus (A-GMD)
	VRF mainline communication (A-VRM -or- A-VRR)
	Zigbee 3.0 (BCU-S24-ZGB -or- BCU-POE-ZGB)
Built-in Sensors	
Humidity sensor:	range 0% up to 100% RH
Temperature sensor:	range -40°C up to +125°C
Operating conditions	
Working temperature:	-10°C – +60°C
Humidity:	5% – 90% at 25°C
Dimensions and weight	
Dimensions:	92 x 92 x 29 mm
Standard:	EN 63044-1, EN 62368-1

Accessories

Silver frame Gold frame Black frame

FRM4H1.B	INS4SQ Aluminium Frame sharp - Black
FRM4H1.S	INS4SQ Aluminium Frame sharp - Silver
FRM4H1.G	INS4SQ Aluminium Frame sharp - Gold
FRM4P1.B	INS4SQ Aluminium Frame curve - Black
FRM4P1.S	INS4SQ Aluminium Frame curve - Silver
FRM4P1.G	INS4SQ Aluminium Frame curve - Gold
PS1M-15/24V	Power supply

Connection



Another view

powered by SKY THINGS powered by INSPINIA

INS4RT | 4" room retrofit panel

- The INS4RT is a sophisticated 4" touch panel that offers intuitive control for smart living spaces.
- It features a high-resolution IPS display, capacitive touchscreen, and is powered by an ARM A7 processor.
- The panel runs on Linux OS and supports up to 200 UI objects and 1000 BMS points.
- It's equipped with WiFi, Bluetooth, and RS485 connectivity, alongside built-in sensors for temperature and humidity.
- Is designed for seamless integration into modern home automation systems, providing users with a centralized interface for managing their environment.

Technical parameters	INS4SQ-RT
Hardware / Software	
Hardware:	ARM A7 Single-Core 1.2 GHz / 128MB DDR3 Ram / 256 MB Nand flash
Software:	OS Linux 3.4
Display	
Type:	IPS 4" 480 x 480 resolution
Display:	400 cd/m2 luminance
Touch part:	5 Point capacitive touchscreen
Power Supply	
Supply voltage/tolerance:	24 VDC or 5V 2A (USB)
Dissipated power:	Power consumption max. 10W
Connection	
Standard Interfaces:	(1x) WIFI 802.11 b/g/n - 2.4Ghz / Bluetooth 4.0 (2x) Side RGB LED Bars (1x) 1 Watt Speaker (1x) RS485 up to 128 Node (1x) USB 2.0 Device
Built-in Sensors	
Humidity sensor:	range 0% up to 100% RH
Temperature sensor:	range -40°C up to +125°C
Operating conditions	
Working temperature:	-10°C – +50°C
Humidity:	5% – 90% at 25°C
Dimensions and weight	
Dimensions:	84 x 84 x 10,65 mm

Device description

INS8SQ | 8" touch control panel

INS8SQ/B 8" Panel w/ Black Bars
INS8SQ/S 8" Panel w/ Silver Bars
INS8SQ/G 8" Panel w/ Gold Bars

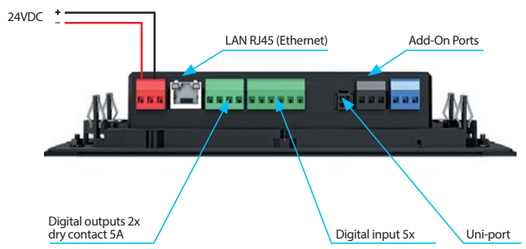
- The INS8SQ offers a feature-rich and versatile solution for control and monitoring applications, with its powerful hardware, user-friendly display, and support for various interfaces and sensors. Its temperature and humidity tolerance make it a reliable choice in different operating environments.
- Featuring IPS 8" 1280 x 800 resolution 350 cd/m2 luminance with 5 point capacitive touchscreen.
- The device runs on OS Android 6.0 operating system with A64 Quad-Core 1.3 GHz/1GB DDR3 Ram / 8GB Nand flash supporting up to 1000 BMS points.
- INS8SQ touch panel designed to control iNELS with Android OS via iNELS applications.
- Integrated speakers and microphone are primarily designed for intercom operation
- Integrated with essential sensors, the device includes an Ambient illuminance measurement sensor , humidity sensor and a temperature sensor, enabling efficient environmental monitoring.
- The INS8SQ comes with a standard LAN RJ45 10/100Mbps interface, ensuring easy network connectivity for data transfer and communication.
- The INS8SQ offers a variety of optional interfaces for enhanced connectivity and compatibility. These include iNELS, RS485, Modbus, VRF, and Zigbee 3.0
- The INS8SQ operates within a working temperature range of -10°C to +60°C.
- The device can be powered by either 24VDC, and it also supports Power over Ethernet (POE IEEE 802.3af), providing flexibility in power options max 30W.
- Configuration, programming, and update applications over the Skythings platform.

Technical parameters	INS8SQ
Hardware / Software	
Hardware:	Quad-Core 1.2 GHz / 1GB DDR3 Ram / 8GB Nand flash
Software:	OS Android 7.1 with iNELS application
Display	
Type:	IPS 8" 1280 x 800 re Via solution
Display:	300 cd/m2 luminance
Touch part:	5 point capacitive touchscreen
Power Supply:	
Supply voltage/tolerance:	24 VDC
PoE:	PoE IEEE 802.3at (optional w/PSU-TP-POE)
Dissipated power:	Power consumption max. 13W
Connection	
Ethernet:	1x LAN RJ45
Communication speed:	10/100 Mbps interface
Optional Interfaces	
	iNELS BUS
	RS485 (EIA-485) (RS4)
	Galvanic isolated RS485 Modbus (A-GMD)
	VRF mainline communication (A-VRM -or- A-VRR)
	Zigbee 3.0 (BCU-S24-ZGB -or- BCU-POE-ZGB)
Built-in Sensors	
Humidity sensor:	range 0% up to 100% RH
Temperature sensor:	range -40°C up-to +125°
Operating conditions	
Working temperature:	-10°C – +60°C
Humidity:	5% – 90% at 25°C
Dimensions and weight	
Dimensions:	243 x 149 x 42 mm
Standard:	EN 63044-1

Accessories

BOX-INS8Q	Flush Mount Box for 8" Touch Panel
BOX-INS8W	On-Wall Mount Box for 8" Touch Panel
PS1M-15/24V	Power supply

Device description



powered by SKY THINGS

INS10SQ | 10” touch control panel

N

INS10SQ.B 10" Panel w/ Black Bars
INS10SQ.S 10" Panel w/ Silver Bars
INS10SQ.G 10" Panel w/ Gold Bars

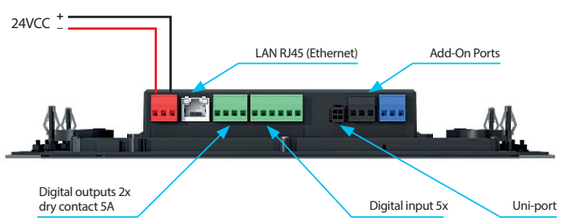
- The INS10SQ offers a feature-rich and versatile solution for control and monitoring applications, with its powerful hardware, user-friendly display, and support for various interfaces and sensors. Its temperature and humidity tolerance make it a reliable choice in different operating environments.
- Featuring IPS 10“ 1280 x 800 resolution 350 cd/m2 luminance with 5 point capacitive touchscreen.
- The device runs on OS Android 6.0 operating system with A64 Quad-Core 1.3 GHz/1GB DDR3 Ram / 8GB Nand flash supporting up to 2000 BMS points.
- INS10SQ touch panel designed to control iNELS with Android OS via iNELS applications.
- Integrated speakers and microphone are primarily designed for intercom operation
- Integrated with essential sensors, the device includes an Ambient illuminance measurement sensor , humidity sensor and a temperature sensor, enabling efficient environmental monitoring.
- The INS10SQ comes with a standard LAN RJ45 10/100Mbps interface, ensuring easy network connectivity for data transfer and communication.
- The INS10SQ offers a variety of optional interfaces for enhanced connectivity and compatibility. These include iNELS, RS485, Modbus, VRF, and Zigbee 3.0
- The INS10SQ operates within a working temperature range of -10°C to +60°C.
- The device can be powered by either 24VDC, and it also supports Power over Ethernet (POE IEEE 802.3af), providing flexibility in power options max 30W.
- Configuration, programming, and update applications over the Skythings platform.

Technical parameters	INS10SQ
Hardware / Software	
Hardware:	Quad-Core 1.2 GHz / 1GB DDR3 Ram / 8GB Nand flash
Software:	OS Android 7.1 with iNELS application
Display	
Type:	IPS 10“ 1280 x 800 re Via solution
Display:	300 cd/m2 luminance
Touch part:	5 point capacitive touchscreen
Power Supply:	
Supply voltage/tolerance:	24 VDC
PoE:	PoE IEEE 802.3at (optional w/PSU-TP-POE)
Dissipated power:	Power consumption max. 13W
Connection	
Ethernet:	1x LAN RJ45
Communication speed:	10/100 Mbps interface
Optional Interfaces	
	iNELS BUS
	RS485 (EIA-485) (RS4)
	Galvanic isolated RS485 Modbus (A-GMD)
	VRF mainline communication (A-VRM -or- A-VRR)
	Zigbee 3.0 (BCU-S24-ZGB -or- BCU-POE-ZGB)
Built-in Sensors	
Humidity sensor:	range 0% up to 100% RH
Temperature sensor:	range -40°C up-to +125°
Operating conditions	
Working temperature:	-10°C – +60°C
Humidity:	5% – 90% at 25°C
Dimensions and weight	
Dimensions:	307 x 194.6 x 39.5 mm
Standard:	EN 63044-1

Accessories

BOX-INS10Q	Flush Mount Box for 10" Touch Panel
PS1M-15/24V	Power supply

Device description



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INSPINIA ADD-ONS | Connectivity options

INSPINIA

Technical parameters	ADD-ONS
Modbus	
Order Code:	A-GRS4
Supported Media:	RS485
Power Consumption on Bus:	None
Isolation Type:	Board-to-board Galvanic Isolated
Dimensions:	35x30 mm

Technical parameters	ADD-ONS
VRV & VRF SYSTEMS	

Supported Brand	Order Code	Terminal Name	Communication Line
Samsung	A-VSM	F1-F2 / R1-R2	NASA
Daikin	A-VDK	F1-F2	D3 Net
Hitachi	A-VHT	1-2	TCC Link
LG	A-VLG	A-B	Inter A-B
Mitsubishi Electric	A-VME	M1-M2	M-Net TB3/7
Mitsubishi Heavy	A-VMH	A-B	S Slink I/II
Midea/Chigo	A-VMD	X-Y-E	X Y E
Panasonic/Sanyo	A-VPA	U1-U2	S3 Net
Toshiba	A-VTO	U1-U2	TCC Link

zigbee	
Order Code:	A-ZGB
Supported Media:	Zigbee
Power Consumption on Bus:	None
Isolation Type:	None
Dimensions:	35x30 mm

License	
L-P100:	100 BMS Points License
L-P500:	500 BMS Points License
L-P1000:	1000 BMS Points License
L-VRF-U1:	1 Unit VRF License
L-VRF-C1:	1 Channel - 64 Unit VRF License
L-VRF-C2:	2 Channel - 128 Unit VRF License

iNELS	
Order Code:	A-iBUS
Supported Media:	iNELS BUS
Power Consumption on Bus:	None
Isolation Type:	None
Dimensions:	35x30 mm

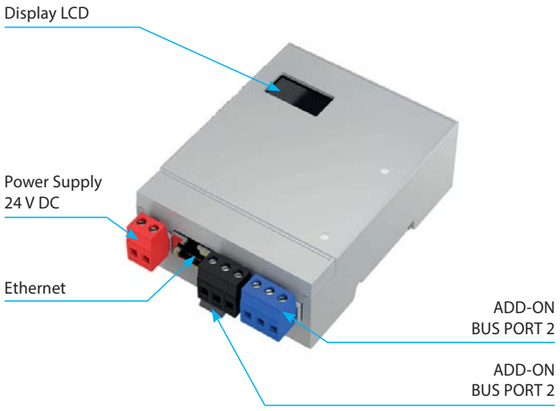
KNX	
Order Code:	A-KNX
Supported Media:	KNX Twisted Pair
Power Consumption on Bus:	Approx. < 10mA
Isolation Type:	Board-to-board
Dimensions:	35x30 mm

MNSRV | Inspinia Mini Server

- The Inspinia Mini Server MNSRV is a versatile and compact server equipped with an ARM A7 Single-Core 1.2 GHz processor, 128MB DDR3 RAM, and 256MB NAND flash storage.
- It runs on the Linux 3.4 operating system and supports the Inspinia Application, allowing up to 1000UI objects and 2000 objects for comprehensive building management.
- The initial license includes 300 BMS points, excluding HVAC (VRV/VRF) points.
- Designed with a 1-inch monochrome OLED LCD display, this mini server offers easy-to-read information in a compact form.
- For power supply, it accepts a 24VDC input or Passive PoE (PPOE), with a maximum power consumption of only 2.5W, ensuring efficient energy use.
- Standard connectivity is provided through a LAN RJ45 10/100Mbps interface.
- The device also features two add-on ports for optional interface modules, expanding its integration capabilities with protocols such as KNX TP, iNELS Bus TP, galvanically isolated RS485 Modbus, VRF mainline communication, and Zigbee 3.0.
- The Inspinia Mini Server MNSRV is built to operate reliably in a wide range of environments, with a working temperature from -10°C to +60°C and a humidity tolerance of 5% to 90% at 25°C.

Technical parameters	MNSRV
Hardware / Software	
Hardaware:	ARM A7 Single-Core 1.2 GHz / 128MB DDR3 Ram
Software:	OS Linux 3.4 | Inspinia Application up to 1000 UI objects and 2000 objects Initial license: 300 BMS points / No HVAC (VRV/VRF) point
Display	
	1" OLED LCD Mono color
Power Supply	
	24VDC In or PPOE (Passive PoE)
	Power consumption max. 2.5W
Standard Interfaces	
	1x LAN RJ45 10/100Mbps interface
	2x Add-On Ports (Optional Interface Ports)
Optional Interfaces	
	KNX TP (A-KNX)
	iNELS Bus TP (A-iBUS)
	Galvanic isolated RS485 Modbus (A-GRS4)
	VRF mainline communication (A-VXX)
	Zigbee 3.0 (A-ZGB)
Operating conditions	
Working Temperature:	-10°C ... +60°C
Humidity:	5% – 90% at 25°C
Other data	
Dimensions:	90x71x32 mm
Standards:	EN 63044-1

Device description



Local Web Interface

Default IP	192.168.2.100
Username	admin
Password	aEuXW6gn

Order code

MNSRV	Inspinia Mini Server

Accessories

PS1M-15/24V	Power supply

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ACWI-xx | Aircon Wi-Fi Interface

- The Aircon Wi-Fi Interface (ACWI) is an advanced integration module designed for seamless communication and control of various HVAC (Heating, Ventilation, and Air Conditioning) systems.
- The ACWI is compatible with a broad range of air conditioner brands, ensuring versatility in deployment across different environments.
- The device measures 92 mm x 53 mm x 25 mm and is designed for easy on-wall mounting.
- The ACWI is powered by an ARM chipset, with firmware customized for each supported HVAC brand, ensuring optimized performance.
- No external power supply is needed for Daikin, Mitsubishi Electric, Samsung, and Mitsubishi Heavy systems. For other setups, an optional 24 VDC power supply is available, with the unit consuming a maximum of 3W.
- The ACWI comes with standard interfaces for different air-conditioner models, 1x Digital I/O ports for flexible control, and a 1x External Temperature Sensor for precise temperature monitoring.
- Optional interfaces include KNX Twisted Pair (A-KNX) and Modbus RTU (A-GRS4) for industrial communication.
- The device operates within a temperature range of -15°C to +70°C and supports humidity levels from 5% to 90% at 25°C.
- The ACWI supports various models and brands, including:
  Daikin: Ports S21, P1-P2
  Mitsubishi Electric: Ports CN105, TB15
  Mitsubishi Heavy: Port X-Y
  Samsung: Port F3-F4
  Midea: Port X-Y
- Each variant of the ACWI is associated with a specific order code corresponding to the air conditioner brand and connection type, simplifying the selection process.

Technical parameters	ACWI
Hardware / Software	
Hardaware:	ARM Chipset
Software:	Firmware for each HVAC brand
Power Supply:	
	No additional power supply required for Daikin, Mitsubishi Electric, Samsung, Mitsubishi Heavy
	24 VDC (Optional)
	Power consumption max. 3W
Standard Interfaces	
	Different communication for models (see below)
	2x Digital In/Out
	1x External Temperature Sensor (NTC10K)
Optional Interfaces	
	KNX Twisted Pair (A-KNX)
	Modbus RTU (A-GRS4)
Operating conditions	
Working Temperature:	-15°C – +70°C
Humidity:	5% – 90% at 25°C
Other data	
Dimensions:	92x53x25 mm
Mounting Type:	On-Wall Mount
Standards:	EN 63044-1

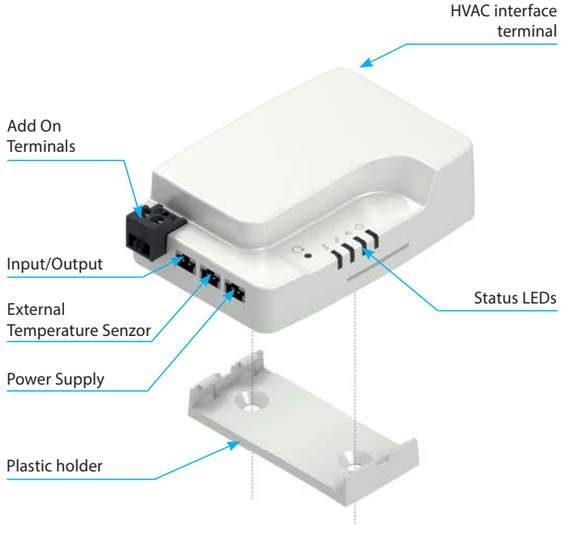
Order code

ACWI-SF	Aircon Wi-Fi Interface Samsung F3F4
ACWI-MX	Aircon Wi-Fi Interface Mitsubishi Heavy XY
ACWI-MT	Aircon Wi-Fi Interface Mitsubishi Electric TB15
ACWI-MD	Aircon Wi-Fi Interface Midea XY
ACWI-MC	Aircon Wi-Fi Interface Mitsubishi Electric CN105
ACWI-DS	Aircon Wi-Fi Interface Daikin S21
ACWI-DP	Aircon Wi-Fi Interface Daikin P1P2

Accessories

PS1M-15/24V	Power supply
A-KNX	Add-on KNX
A-GRS4	Modbus RTU Add-on

Device description



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BUS electro-installation

The BUS electro installation iNELS BUS System is a unique solution for electrical installation in the implementation of new projects of houses, villas, apartment buildings, office buildings, hotels, restaurants, wellness centres or perhaps even warehouse or production hall.

The ability to deploy this solution in such a wide variety of different buildings with various purposes and uses lies in its modularity. Thanks to the modular design, the system is very flexible and allows on the one hand, a solution of single-purpose tasks such as control of lighting in restaurants, and on the other hand, solving complex control systems for heating, ventilation, cooling, lighting and shading of office buildings. A complete range of control units designed from glass for management of hotel rooms is in the market unique. Thanks to its modularity is very easy to customize the size of the system and to that effect create a cost effective solution. Smart homes and buildings are accompanied by three basic ideas, namely savings, comfort and safety, the first two ideas may at first glance contradict each other. However, the main objective of smart home or building equipped with the iNELS solution is to attain the optimum indoor environment while achieving the most efficient operation of all system. In homes and buildings the optimal internal environment is very important because people nowadays spend up to 80% of their time inside buildings. It is also shown that indoor environments, where we talk about thermal comfort, lighting comfort and indoor air quality significantly affect the mood and the effectiveness of people.

The iNELS system allows connection of wide range of sensors (temperature, light intensity, carbon dioxide, humidity, and pressure) and detectors (movement, opening doors and windows, gas leakage, smoke, flooding) whose values are constantly evaluated. At the same time iNELS allows the connection of all the technologies that are installed in the building, which continued to significantly increase operational efficiency or comfort, for example; in the case of integrating the guest room management system with the receptionist Fidelio system, which automatically during check-in, sends the room requests for execution, a welcome scene (optimum temperature, comfortable lighting scene, music etc.).

More systems can be controlled by iNELS:

Push-button wall controller

Glass wall controller

Temperature control

iNELS Cloud

Smartphone

What are the benefits of BUS controlling?

- Save energy by regulating lighting and heating properly
- Control of blinds, awnings, exterior or internal window shutters
- Dimming lights, lighting scenes
- control of appliances or electrical devices
- Control access gates, garage doors
- Logical and central functions (exit button, ...)
- Manual and automatic control mode
- Preventing undesirable opening of a window or a door
- Responding to the movement of people (authorized and unauthorized)
- Remote monitoring via smartphone, tablet or laptop
- Possibility to control via the iNELS Touch Panel 10"
- Integration of third-party devices (cameras, air conditioning, ...)

Product loadability

Problematic choice of suitable relay contact for a particular load switched with a product is described below. Mostly we experience problems with incorrect choice of load (meaning incorrect relay for a particular load) which results in permanent switching of contact (sealing) or damage on relay contact – which then results in malfunction.
What load can you use? Detailed types of load according to standard EN 60947 are described in charts below – categories of use.

Category of use	Typical use	EN
AC current, cosφ = P/S (-)		
AC-1	Non-inductive or slightly inductive load, resistance furnace Includes all appliances supplied by AC current with power factor (cos φ) ≥ 0.95 Examples of usage: resistance furnace, industrial loads	60947-4
AC-2	Motors with slip-ring armature, switching off	60947
AC-3	Motors with short-circuit armature, motor switching when in operation This category applies to switching off motors with short-circuit armature while in operation. While switching, contactor switches current which is 5 up to 7 times rated current of motor.	60947-4
AC-4	Electro-motors with short-circuit armature: start up, braking by backset, changeover	60947
AC-5a	Switching of electrical gas-filled lights, fluorescent lights	60947-4
AC-5b	El. bulb switching Enables low contact loading due to resistance of cold fiber is many times smaller that the one of hot fiber.	60947-4
AC-6a	Switching of transformers	60947-4
AC-6b	Switching of capacitors	60947-4
AC-7a	Switching low inductive loads of home appliances and similar applications	60947
AC-7b	Load of motors for home appliances	60947
AC-8a	Switching of hermetically sealed motors of cooling compressors with manual reset switches against overload Hermetically sealed cooling compressors have to be placed in one box without external shaft or shaft padding and motor must operate with cooling liquid	60947
AC-8b	Switching of hermetically sealed motors of cooling compressors with manual reset switches against overload Hermetically sealed cooling compressors have to be placed in one box without external shaft or shaft padding and motor must operate with cooling liquid	60947
AC-12	Switching of semiconductor loads with separation transformers	60947-5
AC-13	Switching of semiconductor loads with separation transformers	60947-5-1
AC-14	Switching of low electro-magnetic loads (max.72 VA)	60947-5-1
AC-15	Management of alternating electro-magnetic loads This category applies to switching inductive loads with input for closed electro-magnetic circuit higher than 72 VA Use: switching coils of contactors	60947-5
AC-20	Connecting and disconnecting in unloaded states	60947-3
AC-21	Switching resistive loads, including low loading	60947-3
AC-22	Switching of mixed resistive and inductive loads, including low overloading	60947-3
AC-23	Switching of motor loads or other high inductive loads	60947-3
AC-53a	Switching of motors with short-circuit armature with semiconductor contactors	60947

Note: Category AC 15 replaces formerly used category AC 11

DC current, t = L/R (s)		
DC-1	Non-inductive or low inductive load, resistive furnaces	60947-4
DC-3	Shunt motors: start-up, braking by backset, reversion, resistive braking	60947-4-1
DC-5	Series motor: start-up, braking by backset, reversion, resistive braking	60947-4-1
DC-6	Non-inductive or low inductive loads, resistive furnaces – el. bulbs	60947-4-1
DC-12	Management of resistive loads and fixed loads with insulation by opto-electric element	60947-5-1
DC-13	Switching of electromagnets	60947-5-1
DC-14	Switching of electromagnetic loads in circuits with limiting resistor	60947-5-1
DC-20a(b)	Switching and breaking without load(a: frequent switching ,b: occasional switching)	60947-3
DC-21a(b)	Switching ohmic loads including limiting overloading (a: frequent switching ,b: occasional switching)	60947-3
DC-22a(b)	Switching of compound ohmic and inductive loads including limited overloads (e.g. shunt motors) (a: frequent switching, b: random switching)	60947-3
DC-23	Switching of highly inductive loads (e.g. series motors)	60947-3

How can you distinguish for which load is our product (relay) designated?
Our company record this information on a products and also in our catalogue, instruction manual and other promotional and technical material (website etc.).
It is important to realize that it is not always possible to point out load because of lack of information about the device (user cannot measure cos) or it is not possible because of inconstancy of parameters of switched device. Manufacturer of relays records always guaranteed parameters in ideal conditions which are done by a norm (temperature, pressure, humidity, etc.) and reality can be in a lot of cases different. Category of use (classification) of a particular relay is done by material of output contacts.
Basic types of materials which are used for production of contacts for high-performance relay are:

a) AgCd – suitable for switching ohmic loads. Before of harmfulness of Cd, this type of contact is remitted.
b) AgNi –designated for switching resistive loads, good quality switching and conducting (contact doesn't oxidate) small currents/voltages, it is not designated for surge currents and loads with inductive component.
c) AgSn or $AgSnO_2$ –suitable for switching loads with inductive component, not suitable for switching small currents/voltages, it is more resistive to surge currents, suitable for DC voltage switching, less suitable for switching loads of ohmic type.
d) Wf (wolfram)-special contact designated for switching surge currents with inductive component.
e) with gold (AgNi/Au)- Used for "improving" contacts for low currents/ voltages , prevents oxidation.

Load capacity of switching elements iNELS - BUS

Minimum load		
Relay contact	mV	V/mA
$AgSnO_2$	1000	10/100

Minimum load		
Relay contact	mV	V/mA
AgNi	300	5/10

GCR3-11, GCH3-31, SA3-02B, SA3-06M, WMR3-21, SA3-014M, JA3-014M, RC3-610M/DALI, IOU3-108M

Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact material $AgSnO_2$, contact 8 A	250 V/8 A	250 V/2.5 A	250 V/1.5 A	230 V/1.5 A (345 VA)	230 V/1.5 A (345 VA) till max output C=14uF	250 W	X	250 V/1 A	250 V/1 A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material $AgSnO_2$, contact 8 A	250 V/3 A	250 V/3 A	250 V/3 A	24 V/4 A	24 V/2 A	24 V/1.5 A	24 V/4 A	24 V/1 A	24 V/1 A

SA3-04M, SA3-022M (RE7 - RE-10), SA3-01B

Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact material $AgSnO_2$, contact 16 A	250 V/16 A	250 V/3 A	250 V/2 A	230 V/3 A (690 VA)	230 V/3 A (690 VA) till max output C=14uF	1500 W	x	250 V/3 A	250 V/10 A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material $AgSnO_2$, contact 16 A	250 V/6 A	250 V/6 A	250 V/6 A	24 V/8 A	24 V/4 A	24 V/3 A	24 V/8 A	24 V/2 A	24 V/2 A

SA3-02B/Ni*, SA3-06M/Ni*

Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact material AgNi contact 8 A	250 V/8 A	250 V/1.5 A	250 V/1 A	230 V/1.5 A (345 VA)	x	400 W	x	250 V/0.5 A	250 V/5 A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material AgNi contact 8 A	250 V/2 A	250 V/2 A	250 V/2 A	24 V/4 A	24 V/2 A	24 V/1.5 A	24 V/4 A	24 V/1 A	24 V/0.5 A

SA3-04M/Ni*

Type of load	AC1	AC2	AC3	AC5a uncompensated	AC5a compensated	AC5b	AC6a	AC7b	AC12
Contact material AgNi contact 16 A	250 V/16 A	250 V/2.25 A	250 V/1.5 A	230 V/3 A (690 VA)	x	800 W	x	250 V/1 A	250 V/10 A
Type of load	AC13	AC14	AC15	DC1	DC3	DC5	DC12	DC13	DC14
Contact material AgNi contact 16 A	250 V/4 A	250 V/4 A	250 V/4 A	24 V/8 A	24 V/4 A	24 V/3 A	24 V/8 A	24 V/2 A	24 V/1 A

SA3-022M (RE1 - RE6, OUT1 - OUT2, RE11 - RE16, SHUTTER),
EA3-022M (RE1 - RE6, OUT1 - OUT2, RE11 - RE16, SHUTTER),
FA3-612M (FAN1 - FAN3, RE)

Type of load	AC1	AC3	AC15	DC1
Contact material AgNi contact 6 A	250 V/6 A	230 V/0.8 A	230 V/1.3 A	30 V/3 A 110 V/0.2 A 220 V/0.12 A

Demonstrated symbols are informative.
*Products with AgNi contact only up on request for extra charge.

Load capacity of switching elements iNELS - BUS

Load	bulbs, halogen bulbs	12–24 V low-voltage bulbs, coil transformers	12–24 V low-voltage bulbs, electric transformers	LEDs/LED strip*	energy-saving fluorescent tubes	control method	
	R	L	C	dimmable	dimmable	entering edge	trailing edge
DA3-22M	•	•	•	•	•	•	•
DA3-66M	•	•	•	•	•	•	•
DA3-03M/RGBW	–	–	–	•	–	–	–

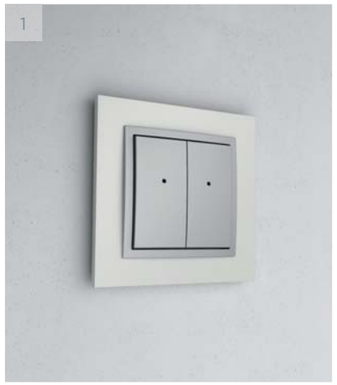
Explanations

	El. bulbs loads: el. bulb, halogen light (R)		Elektronic ballasts for fluorescent (L)
R,L,C	**Dimmer with defined load:** R - resistive, L - inductive, C - capacitive		**Inductive loads (transformers):** feromagnetic and toroid transformers for lights with various voltage.
	Fluorescent light: fluorescent lights uncompensated		**Switch:** switch - control contact of various device
	Fluorescent light: fluorescent light compensated in series		**Button:** control button
10µF	**Fluorescent light:** fluorescent light compensated in parallel		**Control module:** analog control module 0 - 10 V
	Fluorescent light: fluorescent light economical	M	Motor

Category of use	Typical use
AC current, cosφ = P/S (-)	
AC-1	Non-inductive or slightly inductive load, resistance furnace. Includes all appliances supplied by AC current with power factor (cos φ) ≥ 0.95. Examples of usage: resistance furnace, industrial loads.
AC-2	Motors with slip-ring armature, switching off.
AC-3	Motors with short-circuit armature, motor switching when in operation. This category applies to switching off motors with short-circuit armature while in operation. While switching, contactor switches current. which is 5 up to 7 times rated current of motor.
AC-5a	Switching of electrical gas-filled lights, fluorescent lights.
AC-5b	El. bulb switching. Enables low contact loading due to resistance of cold fi ber is many times smaller that the one of hot fi ber.
AC-6a	Switching of transformers.
AC-7b	Load of motors for home appliances.
AC-12	Switching of semiconductor loads with separation transformers.
AC-13	Switching of semiconductor loads with separation transformers.
AC-14	Switching of low electro-magnetic loads (max. 72 VA).
AC-15	Management of alternating electro-magnetic loads. This category applies to switching inductive loads with input for closed electro-magnetic circuit higher than 72 VA. Use: switching coils of contactors.
	Note: Category AC 15 replaces formerly used category AC 11.
DC current, t = L/R (s)	
DC-1	Non-inductive or low inductive load, resistive furnaces.
DC-3	Shunt motors: start-up, braking by backset, reversion, resistive braking.
DC-5	Series motor: start-up, braking by backset, reversion, resistive braking.
DC-12	Management of resistive loads and fixed loads with insulation by opto-electric element.
DC-13	Switching of electromagnets.
DC-14	Switching of electromagnetic loads in circuits with limiting resistor.

Installation possibilities

1



1) Surface mounted

Wall mounted in an installation box with spacing of 65 mm.

INS4SQ
EHT3
GBP3-60x
GCR3-11
GCH3-31
GRT3-50
GSB3-40
GSB3-60
GSB3-80
GSB3-90
GSB3-20/S
GSB3-40/S
GSB3-60/S
GSB3-90/S
MSB3-40
MSB3-60
MSB3-90
GSP3-100
GCR3-30
IDRT3-1
WMR3-21
WSB3-20
WSB3-20H
WSB3-40
WSB3-40H

2

2) DIN Rail mounted

On DIN rail according to EN 60715.

ADC3-60M
CU3-07M
DA3-66M
DA3-22M
DAC3-04M
FA3-612M
IM3-140M
IOU3-108M
JA3-014M
PS3-30/iNELS
PS3-100/iNELS
SA3-04M
SA3-06M
SA3-014M
SA3-022M
TI3-60M

3

4) Mounted to or in the installation box

Mounted in an installation box or built into the device.

IM3-40B
IM3-80B
SA3-01B
SA3-02B
TI3-40B

4

4) Mounted into the cover of appliance

SA3-01B
SA3-02B

Installation possibilities

5

5) Surface mounted

Other attachment options.

DLS3-1

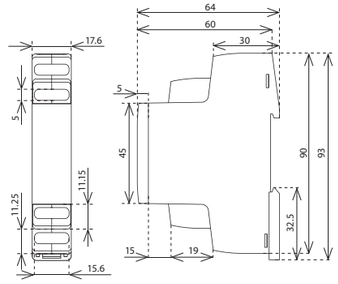
6

6) Ceiling mounting

MCD3-01
PMS3-01

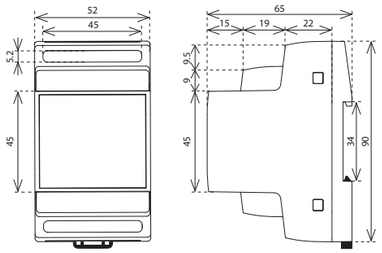
Dimensions

1-MODULE



BPS3-01M
BPS3-02M
CU3-07M
CU3-08M
CU3-09M/DALI
CU3-10M/MODBUS
iNELS Bridge

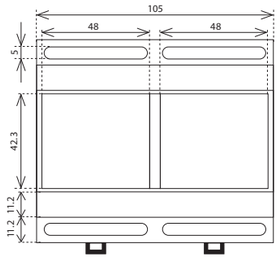
3-MODULE

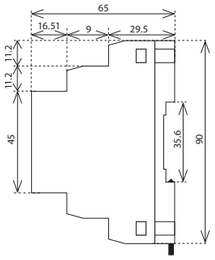


ADC3-60M
DA3-22M
DAC3-04M
IM3-140M

PS3-30/iNELS
SA3-04M
SA3-06M
TI3-60M
DA3-03M/RGBW

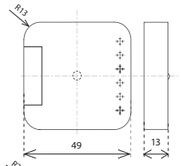
6-MODULE





DA3-66M
EA3-022M
FA3-612M
IOU3-108M
JA3-014M
JA3-014M/E
SA3-014M
SA3-014M/E
SA3-022M
RC3-610M/DALI

BOX



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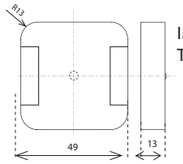

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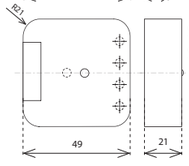
TI3-40B



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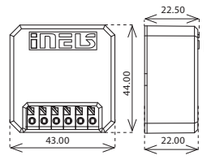
SA3-02B



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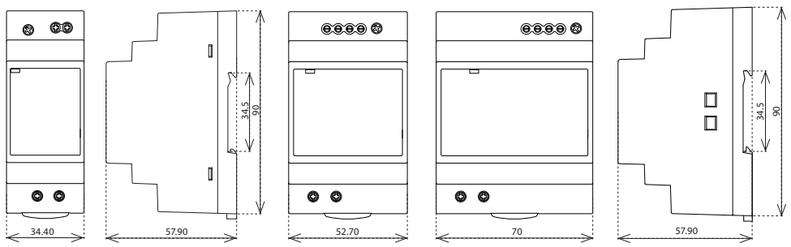
PSM3



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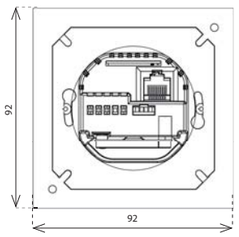
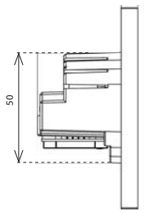
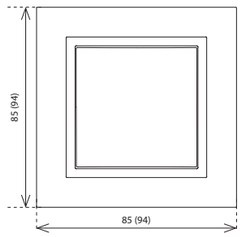
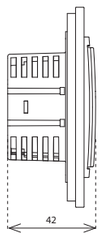
PSM3-60
PSM3-100



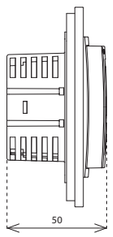


IN-
S4SQ





WSB3-20
WSB3-20H
WSB3-40
WSB3-40H
WMR3-21



IDRT3-1

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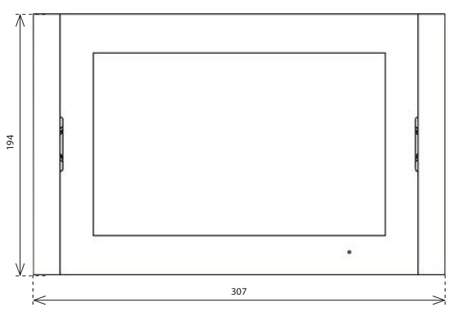

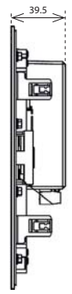

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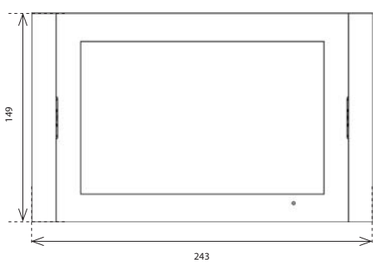

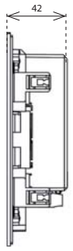

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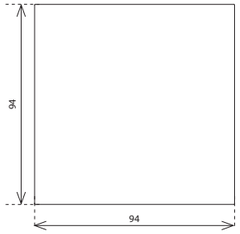
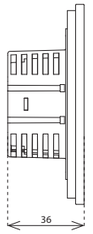
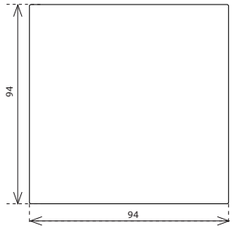
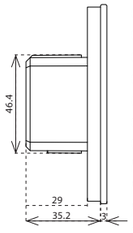




GCR3-11
GDB3-10
GRT3-50





GSB3-40
GSB3-60
GSB3-90
GSB3-40/S
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GRT3-70
MSB3-40
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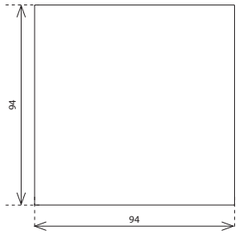
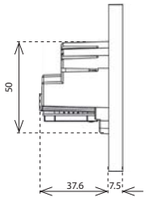
GCR3-30





IN-
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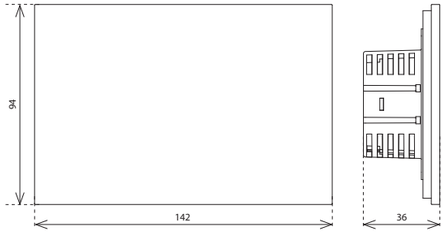
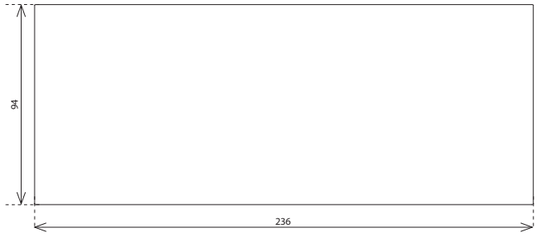
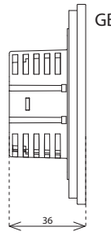
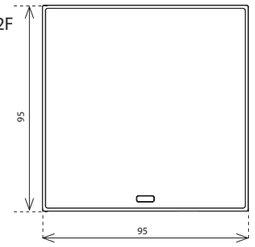


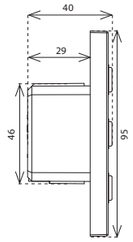
GSP3-100
GCH3-31





GBP3-60x/2F





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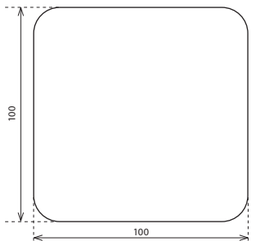
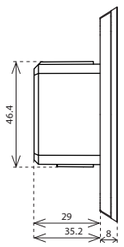
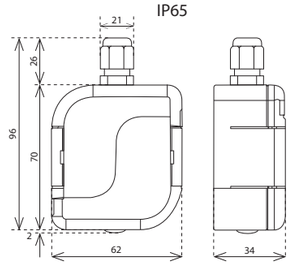
ZSB3-60
ZSB3-90
MSB3-40
MSB3-60
MSB3-90





GRT3-270
GSB3-2x0
GSB3-2x0/S

IP65



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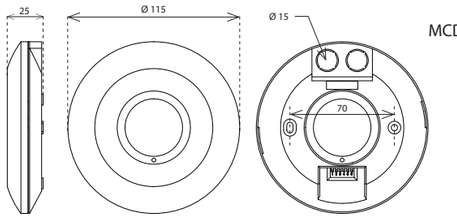

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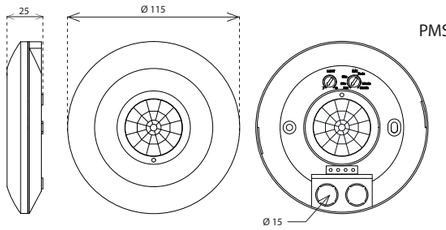

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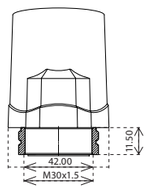

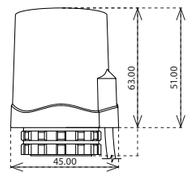

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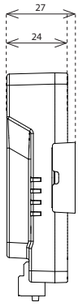

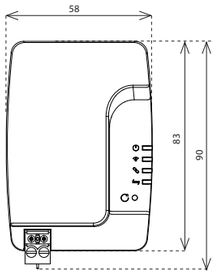

ACWI-xx

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