Expandable automation station

DIGICONTROL ems5.CP05E

Data sheet number 31010

DIGICONTROL ems5.CP05E is a network-based, freely configurable automation station for the implementation of manifold tasks in all areas of building and room automation. The ems5.CP... is perfectly suited to meet all requirements of the future due to its open communicatíon via all modern transmission channels, the utilisation of existing IT structures, the integration of different trades and systems and the extendable overall concept with a centralised and descentralised distribution of tasks by means of intelligent extension modules. Being a compact automation station it is used as expandable system in smaller plants and is applied in complex building and room automation systems.The ems5.CP05E is furnished with an embedded Web server for fully graphics-based remote control and monitoring of the automation functions. A fully graphical visualization of the plant information is supported as well.The ems5.CP05E can be used as BACnet® Building Controller (B-BC) pursuant to the BACnet® Standardized Device Profile in accordance with the Annex L of the ANSI ASHRAE Standard 135-2001 or DIN EN 16484-5. The communication is performed via BACnet/IP and BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
LED display	24 V-LED (green), RUN-LED (green), ST-LED (red), RS232/RS485 TX (green), RX (orange), SD card DUO-LED
Microprocessor system	CPU: ARM Cortex™-A5, Cortex™-M4, 500 MHz (A5), 167 MHz (M4) Memory: 256 MB RAM, 512 MB FLASH
Housing	DIN rail housing for electrical subdistribution
Dimensions	162 x 90 x 62 mm
Protection class	IP20 acc. DIN 40050
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Service	Operation via integrated web server
Outputs	■ 4 analogue outputs 0...10V DC, 10 Bit, 3 mA ■ 6 digital relay outputs 230V AC / 6A / no-contact ■ 10 million mechanical switching games
Inputs	■ 14 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit ■ 24V DC digital inputs ■ 0...10 V DC, resolution 12 bit
System bus	CAN bus
Interfaces	■ 2x ethernet interfaces 10/100 Mbit via integrated switch at the RJ45 sockets ■ 1x RS232/485 ■ 1x CAN bus ■ 1x SD card interface
Other remarks	Watchdog output 24 V DC Integrated SD card slot

TYPE

ems5.CP05E

CONTINUED ON PAGE 33 ▸

◂ CONTINUED FROM PAGE 32

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	
ems5.CBM	DIGICONTROL ems5 expansion license for CAN bus module license for an extension module. The license is required from 13th extension module on.	
ems5.FBM	DIGICONTROL ems5 extension license for CAN fieldbus modules, such as ems4.DEA2I or R4D.RCxx. License for an expansion module. The license is required from the 13th expansion module.	
ems5.MOBM2	DIGICONTROL ems5 expansion license of ems5 for the embedded Modbus RTU Master interface via the integrated RS232-/RS485-interface	
ems5.LM	DIGICONTROL ems5 expansion license for load management load group with 8 loads	
ems5.VPN	DIGICONTROL ems5 extension license for a secure VPN communication. Furthermore as Smart Building Connector for the communication with the DIGICONTROL - Smart Building as a Service or as BACnet-IP-Gateway for the connection of further BACnet components.	
ems5.EMAIL	DIGICONTROL ems5 expansion license for email dispatch from automation stations	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
R4D.UV	ROOM4D mounting variation distribution boards DIGICONTROL R4D.UV Small plastic distribution boards for hollow wall installation in accordance with DIN VDE 0603/1 and DIN 43 871. For installing devices up to 63 A with 70 mm installation depths in compliance with measurement standard DIN 43 880, measurement voltage 400 V/50 Hz, protection class IP30, degree of protection class II insulated. Dimensions (WxHxD): 348 x 505 x 94.5 mm on request.	
R4D.DV	ROOM4D mounting variation small distributor DIGICONTROL R4D.DV Small distributor, single-row, 14 subunits, Ui=400 V, screw-less PE/N terminal strip, flexible cable inlay at the top, with cover and label strips, additional double seal cable glands. Dimensions (WxHxD): 300 x 300 x 142 mm	
R4D.FV	ROOM4D mounting variation terminal board DIGICONTROL R4D.FV Terminal board, manufactured using 1mm galvanised steel plate, tight-fitting M25 cable entry grommets with puncture membrane, cover with quick release fastener, protection class IP40. Dimensions (WxHxD): 500 x 350 x 80 mm	

Expandable automation station with integrated display

DIGICONTROL ems2.CP14D

BACnet Building Controller (B-BC) / AMEV profile AS-B

Data sheet number 18015

DIGICONTROL ems2.CP14D is a network-based, freely programmable and expandable controller for the implementation of various tasks in all areas of building and room automation. The ems2.CP14D is ideally suited to meet all requirements of the future because of the open communication via all modern methods of transmission, the utilisation of existing IT infrastructures, the integration of different trades and systems and the expandable overall concept with central and local distribution of responsibilities by means of intelligent (ems4) extension modules. Being a compact controller with integrated display and integrated operating keys, it is used in smaller plants. It is also applied in more complex building and room automation networks as it is an extensible system.

The ems2.CP14D is equipped with an embedded web-server for the entire remote control and the monitoring of controller functions. A fully-graphical visualisation of the plant characteristics is supported as well.

The ems2.CP14D can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardised Device Profile in compliance with the Annex L of the ANSI ASHRAE-Standards 135-2001 and DIN EN 16484-5. The communication is effected by BACnet/IP or BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %, alternativ “Power over Ethernet” (PoE)
Power consumption	6 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
LED display	24 V-LED (green), RUN-LED (green), ST-LED (red)
Buffering	For SRAM and RTC by means of battery CR2032 (buffering 1-3 years)
Microprocessor system	Coldfire-CPU, MCF 5329, 240 MHz, 16 MB FLASH, 16 MB SDRAM, 4 MB SRAM
RTC	Embedded hardware clock with date and time
Housing	DIN rail housing for electrical subdistribution
Dimensions	162 x 90 x 62 mm
Protection class	IP20 acc. DIN 40050
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0...10 V DC, 10 Bit, 3 mA ■ 6 digital relay outputs 230 V AC / 6 A / no-contact
Inputs	■ 14 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit ■ 24 V DC digital inputs ■ 0...10 V DC, 12 bit
Display	Integrated display with multifunctional keyboard for set point input, polling actual values, notifications, etc.
Interfaces	■ 2 x RS232 / RS485, of which one RS232 (COM-B) is used with DCD-, DSR- and DTR signal modem operation ■ 2 x CAN bus for a maximum of 1MBit/s, bus connection via slider ■ 1 x LIN bus ■ Ethernet interface, 10/100 MBit, RJ45 at the bottom of the housing link LED

◂ CONTINUED FROM PAGE 34

TYPE
ems2.CP14D

ACCESSORY

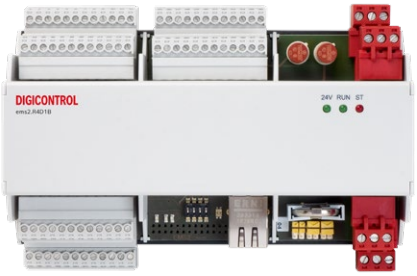
TYPE	DESCRIPTION	
ems2.AD90	Adaptor for a 90° shifted installation of automation components on a top-hat rail	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	
ems2.CBM	DIGICONTROL ems2 extension license for can bus modules License for one extension module. The license is required as of the 7th extension module.	
ems2.BACNET	DIGICONTROL ems2 extension license for BACnet server	
ems2.GWS	DIGICONTROL ems2 extension license for graphics-capable web server	
ems2.MOBM2	DIGICONTROL ems2 extension license for Modbus	
ems2.LM	DIGICONTROL ems2 extension license for load management	
ems2.EMAIL	DIGICONTROL ems2 extension license for e-mail dispatch from the automation station	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
ems2.FR	Front mounting frame for automation stations ems2.CP14D and ems2.R4D1B	
R4D.UV	ROOM4D mounting variation distribution boards DIGICONTROL R4D.UV Small plastic distribution boards for hollow wall installation in accordance with DIN VDE 0603/1 and DIN 43 871. For installing devices up to 63 A with 70 mm installation depths in compliance with measurement standard DIN 43 880, measurement voltage 400 V/50 Hz, protection class IP30, degree of protection class II insulated. Dimensions (WxHxD): 348 x 505 x 94.5 mm on request.	
R4D.DV	ROOM4D mounting variation small distributor DIGICONTROL R4D.DV Small distributor, single-row, 14 subunits, Ui=400 V, screw-less PE/N terminal strip, flexible cable inlay at the top, with cover and label strips, additional double seal cable glands. Dimensions (WxHxD): 300 x 300 x 142 mm	
R4D.FV	ROOM4D mounting variation terminal board DIGICONTROL R4D.FV Terminal board, manufactured using 1mm galvanised steel plate, tight-fitting M25 cable entry grommets with puncture membrane, cover with quick release fastener, protection class IP40. Dimensions (WxHxD): 500 x 350 x 80 mm	

Expandable automation station

DIGICONTROL ems2.R4D1B

BACnet Building Controller (B-BC) / AMEV profile AS-B

Data sheet number 18050



DIGICONTROL ems2.R4D1B is a network-based, freely programmable, expandable controller for the implementation of manifold tasks in all fields of building and room automation. The open communication via all modern transmission methods, the utilisation of existing IT infrastructures, the integration of different trades and systems as well as the expandable overall concept with centralised and local distribution of tasks via fine modular intelligent (ems4) expansion modules mean that the ems2.R4D1B is perfectly suited for all future requirements. Since the ems2.R4D1B is a compact controller, it is used in smaller plants. It is also applied in more complex building and room automation networks as it is an extensible system.
The ems2.R4D1B is equipped with an embedded web-server for the entire remote control and the monitoring of controller functions. A fully-graphical visualisation of plant characteristics is supported as well.
The ems2.R4D1B can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardised Device Profile in compliance with the Annex L of the ANSI ASHRAE-Standards 135-2001 and DIN EN 16484-5. The communication is effected by BACnet/IP or BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %, alternativ “Power over Ethernet” (PoE)
Power consumption	4 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	Top hat rail 35 mm
LED display	24 V-LED (green), RUN-LED (green), ST-LED (red)
Housing	Plastic housing
Weight	375 g
Dimensions	162 x 90 x 62 mm
Protection class	IP20 acc. DIN 40050
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0...10 V DC, 10 bit ■ 4 digital relay outputs 230 V AC / 6 A / no-contact ■ 2 TRIAC outputs / max. 800 mA
Inputs	■ 14 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit ■ 0...10 V DC, 12 bit ■ 24 V DC digital inputs
System bus	CAN bus
Interfaces	■ 2 x RS232 / RS485, of which one RS232 (COM-B) is used for modem operation ■ 2 x CAN bus ■ 1 x LIN bus ■ Ethernet interface, 10/100 MBit, RJ45

CONTINUED ON PAGE 37 ▸

◂ CONTINUED FROM PAGE 36

TYPE
ems2.R4D1B

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	
ems2.CBM	DIGICONTROL ems2 extension license for can bus modules License for one extension module. The license is required as of the 7th extension module.	
ems2.BACNET	DIGICONTROL ems2 extension license for BACnet server	
ems2.GWS	DIGICONTROL ems2 extension license for graphics-capable web server	
ems2.MOBM2	DIGICONTROL ems2 extension license for Modbus	
ems2.LM	DIGICONTROL ems2 extension license for load management	
ems2.EMAIL	DIGICONTROL ems2 extension license for e-mail dispatch from the automation station	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
ems2.FR	Front mounting frame for automation stations ems2.CP14D and ems2.R4D1B	
R4D.UV	ROOM4D mounting variation distribution boards DIGICONTROL R4D.UV Small plastic distribution boards for hollow wall installation in accordance with DIN VDE 0603/1 and DIN 43 871. For installing devices up to 63 A with 70 mm installation depths in compliance with measurement standard DIN 43 880, measurement voltage 400 V/50 Hz, protection class IP30, degree of protection class II insulated. Dimensions (WxHxD): 348 x 505 x 94.5 mm on request.	
R4D.DV	ROOM4D mounting variation small distributor DIGICONTROL R4D.DV Small distributor, single-row, 14 subunits, Ui=400 V, screw-less PE/N terminal strip, flexible cable inlay at the top, with cover and label strips, additional double seal cable glands. Dimensions (WxHxD): 300 x 300 x 142 mm	
R4D.FV	ROOM4D mounting variation terminal board DIGICONTROL R4D.FV Terminal board, manufactured using 1mm galvanised steel plate, tight-fitting M25 cable entry grommets with puncture membrane, cover with quick release fastener, protection class IP40. Dimensions (WxHxD): 500 x 350 x 80 mm	
ems2.AD90	Adaptor for a 90° shifted installation of automation components on a top-hat rail	

Modular automation station

DIGICONTROL ems4.CP02B

Data sheet number 19020

The DIGICONTROL ems4.CP02B - economic modular system - is a network-based, interdisciplinary, freely programmable automation system for universal tasks in all areas of building automation for systems of all sizes. The control unit can communicate without any additional components and is networkable at autmation and management level.
Features: Ethernet RJ45, integrated web server, Peer to Peer communication

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	3.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	On vertical surfaces (wall mounting, terminals at top and bottom)
LED display	4x Status LED
Microprocessor system	ColdFire MCF5282
Buffering	Lithium battery and Gold-Cap
Weight	250 g
Housing	Plastic housing
DIN rail bus connector CAN / LIN	Max. 30 mating cycles, contact load 1 A
Dimensions	45 x 100 x 115 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 integrated digital outputs 24 V DC, transistor 500 mA, short-circuit proof ■ LED status indicator for each output
Inputs	■ 4 integrated digital inputs 24 V DC ■ LED status indicator for each input
System bus	CAN bus
Interfaces	■ 2 x RS232 / RS485 on terminals, one RS232 is modem-capable ■ 1 x Ethernet 10/100 Mbit/s via RJ45 plug ■ 2 x CAN interface ■ 1 x LIN bus ■ Integrated web server ■ Can be expanded via interface modules (e.g. M-Bus, RS232 / RS485) ■ IOs can be expded up to 61 ems4 modules without repeater via CAN interface

TYPE

ems4.CP02B

CONTINUED ON PAGE 39 ▸

◂ CONTINUED FROM PAGE 38

ACCESSORY

TYPE	DESCRIPTION	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	
ems4.PGU	The programming and charging cable ems4.PGU is used as connecting cable for a direct connection between the automation station (ems4.CP02B) and a notebook.	
ems4.TSBV5P	Mounting rail bus connector ems4.TSBV5P for ems4 modules	

Module for saving signal data of automation systems

DIGICONTROL ems4.TLOG

Data sheet number 19090

The module ems4.TLOG is used for saving signal data of a DIGICONTROL automation system and enables long-term logging of up to 54 different signals. These signals are saved on a USB stick or SD card. The configuration of the data to be saved is performed by means of the configuration tool webCADpro. BACnet-compliant reading of the TrendLog objects is carried out by means of the ems2-CPU.
The data can be logged individually or in blocks of up to 6 signals. Signal logging can be performed periodically via an adjustable time and a parametrisable change of value. The USB stick included in the scope of delivery has a storage capacity of 8 GByte.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	Max. 3 W
Button	Front: 1x for CAN bus configuration
Mounting	DIN rail mounting
LED display	CAN bus activity: (red /green) (front of device) LED1 (green) USB stick has been detected LED2 (yellow) data logging LED3 (green) SD card has been detected LED4 (red) fault, data logging not
Weight	120 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ LIN bus ■ USB 2.0 for memory stick (Format: FAT32, max. Size: 32 GByte) ■ SD card interface (Format: FAT32, max. Size: 32 GByte)

TYPE

ems4.TLOG

ACCESSORY

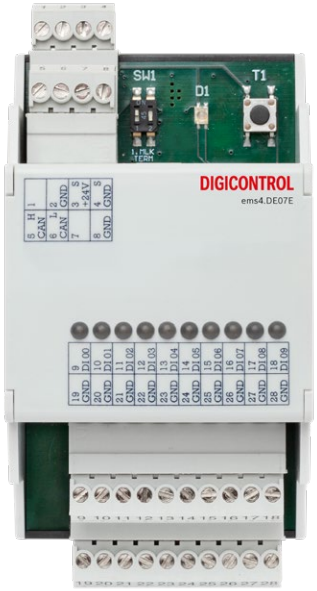
TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Digital input module with 10 digital inputs

DIGICONTROL ems4.DE07E

Data sheet number 19250

The ems4.DE07E is a module for logging digital input signals 24 V DC. As it relates to polarity, the input signals have to be configured individually by means of the software. The respective status of the input signal is displayed in the configured colour via the 10 LEDs on the device front. De-bouncing the input signals is performed by means of the software and can be parameterised within wide limits. Each digital input can be individually configured as signal input and message output. Furthermore, there is the option to directly control outputs of additional bus modules depending of the input signals. The module automatically detects the speed of the connected CAN bus system.



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.2 W
Mounting	Top hat rail 35 mm
LED display	CAN bus activity: (red /green), LED D1 on PCB 10 signal LEDs on front of the device. LED color configurable by software: green, red, orange
Weight	105 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Inputs	■ 10 digital inputs 24 V DC ■ LED status indicator per input ■ Configuration of inputs regarding polarity (jointly for all 10 inputs) ■ Configuration of each individual input as meter is possible. The maximum counter frequency is 50 Hz (pulse / pause ratio = 1). ■ Configuration of each individual input as “sensor input” with configurable sensor pulse extension ■ Status LEDs are separately configurable RED / GREEN / ORANGE for each input. ■ Direct control of any number of digital inputs depending on the configuration or the input signal
Interfaces	CAN

TYPE

ems4.DE07E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Digital output module

DIGICONTROL ems4.DA01E

Data sheet number 19315

The DA01E module enables the switching of 1...16 digital outputs (transistor outputs). A common status signal is provided for each two outputs, which can be used to detect a short circuit at the output, for example. Each output of the ems4.DA01E has special protection mechanisms:

- Short-circuit-proof
- Overload protection
- Current limitation
- Thermal shutdown

A separate power supply for the load circuit is required.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W without load at the outputs
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
Bus connector	DIN rail mounting connector (HBUS)
LED display	1x CAN bus activity (red/green), LED D1 on printed circuit board 16x LED for transistor outputs (green) on front of device
Weight	105 g
Housing	Plastic housing
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Ambient temperature	+5...+45 °C
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	16x transistor outputs 24 V DC, 0.5 A
System bus	CAN bus
Interfaces	CAN
Other remarks	Push-button on printed circuit board for CAN bus configuration

TYPE

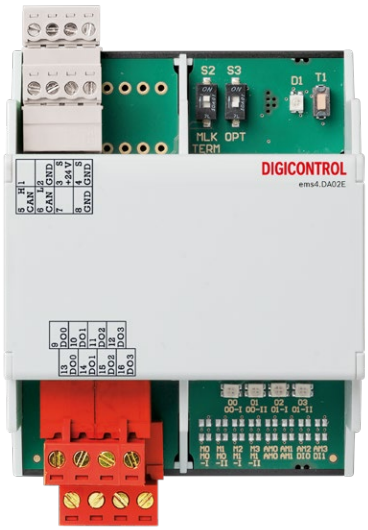
ems4.DA01E

Digital output module for top hat rail mounting

DIGICONTROL ems4.DA02E

Data sheet number 19330

The digital output module ems4.DA02E serves as an extension module for automation equipment in the DIGICONTROL ems series. It has 4 relay outputs for maximum 230 V AC, 6 A (AC1), 2 A (AC1).



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x CAN bus activity (Red /Green) 4x LED for relay outputs (Green)
Weight	140 g
Housing	Plastic housing
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4x relay outputs ■ Potential-free normally open contact ■ Switching current 230 V AC 6 A (AC1), 2 A (AC3)
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.DA02E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Analogue input module for DIN rail mounting

DIGICONTROL ems4.AE03B

Data sheet number 19430

The ems4.AE03B is a module for logging temperatures of the resistance thermometer PT/NI/CU 1000 or input signals 0(2)...10 V DC / 0(4) ... 20 mA with an integrated microcontroller and memory module for accommodating a specially customised programme. Two measuring ranges are available for temperature measurement, which cover different temperature ranges depending on the sensor type. The respective input signal type (PT-/NI-/CU-1000 / 0(2)...10 V DC / 0(4)...20 mA) and the measuring range required (for temperature measurements) are configured separately for each input using the configuration tool.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.5 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	On vertical surfaces (wall mounting, terminals at top and bottom)
LED display	Via Duo LED
Weight	130 g
Housing	Plastic housing
DIN rail bus connector CAN / LIN	Max. 30 mating cycles, contact load 1 A
Dimensions	22.5 x 100 x 115 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Inputs	■ 8 analogue inputs PT-/NI-/CU-1000 / 0(2)...10 V DC / 0(4) ... 20 mA , 16 Bit ■ 2 selectable temperature measuring ranges
System bus	CAN bus
Interfaces	1 x LIN bus

TYPE

ems4.AE03B

ACCESSORY

TYPE	DESCRIPTION	
ems4.TSBV5P	Mounting rail bus connector ems4.TSBV5P for ems4 modules	

Analogue output module for top hat rail mounting

DIGICONTROL ems4.AA01E

Data sheet number 19350

The analogue output module ems4.AA01E serves as an extension module for automation equipment in the DIGICONTROL ems series. It has 4 analogue outputs which can be individually configured for voltage (0...10 V) or current (0/4...20 mA).

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2.1 W (maximum load of analogue outputs)
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	CAN bus activity: (red/green)
Weight	100 g
Housing	Plastic housing
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0...10 V DC or 0/4...20 mA, maximum output load per output with configuration ■ Voltage: 5 mA ■ Current: load 350 - 500 Ohm ■ 10 bit resolution
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.AA01E

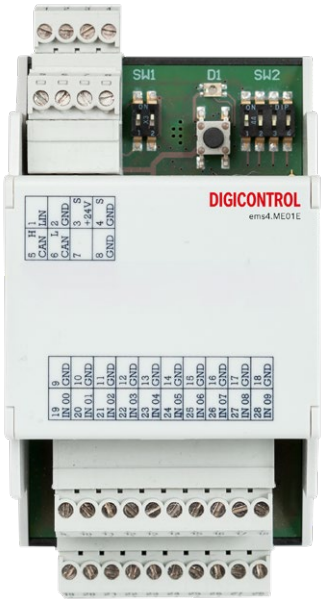
ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

CAN-Multifunction input module with 10 multifunctional inputs

DIGICONTROL ems4.ME01E

Data sheet number 57100



The ems4.ME01E has 10 multifunctional inputs which can be used as digital, analogue and temperature sensor input. Temperature sensors of type PT1000, NI1000(DIN) or NI1000(TKR5000) can be connected. The analogue (0...10 V) signal can also be scaled. If the input is used as digital input, it can be differentiated between a switching signal (ON/OFF) and a pushbutton. The digital signal is debounced by means of an adjustable time (identification time) which can be set via the module parameters. There is the additional option to directly control a digital output module (DA0xB). The module automatically detects the speed of the connected CAN bus system.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2 W
Button	Front: 1x CAN bus configuration
Mounting	DIN rail mounting
LED display	CAN bus activity: (red /green)
Weight	100 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Inputs	■ 10 multifunction inputs (selectable) ■ Analogue 0/2...10 V input (scalable) - 12 Bit ■ PT1000, NI1000 - 12 bit (temperature range: -50°C...+150°C) ■ Digital input (24 V)
Interfaces	CAN, LIN

TYPE

ems4.ME01E

ACCESSORY

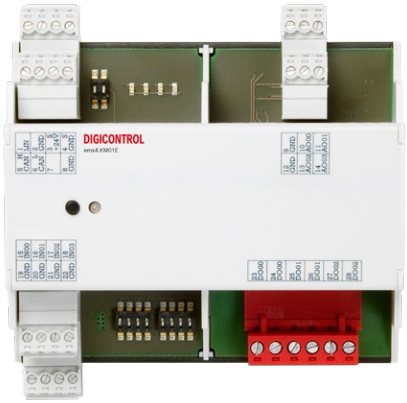
TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Multifunction modul

DIGICONTROL ems4.KM01E

Data sheet number 57080

The ems4.KM01E module is used to switch 1 ... 3 digital outputs (relay outputs). Moreover, it has 4 multi-function inputs and 4 analogue outputs. It can be installed in switching cabinets and electrical sub-distribution racks or it can even be mounted under the floor.



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	3 W
Electrical connection	Via screw terminals for wires up to 2.5 mm² (relay outputs), up to 1.5 mm² (all other screw terminals)
Mounting	Top hat rail 35 mm
LED display	Device front: CAN bus activity (LED red/green) Circuit board: LED 1-4
Weight	206 g
Housing	Plastic housing, for use in distribution boards in accordance with DIN 43880
Dimensions	107.6 x 110 x 62.2 (incl. terminals) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0 ... 10 V or 2 ... 10 V, max. 3.5 mA ■ 3 relay outputs 230 V, 16 A
Inputs	4 multi-function inputs PT1000/NI1000/0 ... 10 V/ digital 24 V DC
System bus	CAN bus
Interfaces	LIN, CAN

TYPE

ems4.KM01E

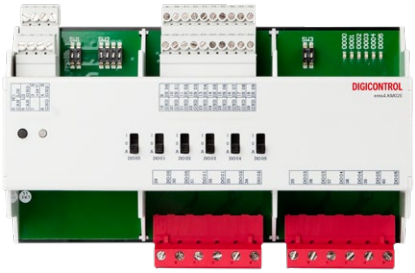
ACCESSORY

TYPE	DESCRIPTION
ems4.HBUS-107	Mounting rail bus connector H bus 107.6

Multifunction module with integrated local priority operating level (LOD)

DIGICONTROL ems4.KM02E

Data sheet number 57082



The ems4.KM02E is equipped with 10 multi-functional inputs which serve, depending on the specific needs, as analogue, digital or temperature sensor input. Temperature sensors of type PT1000, NI1000 (DIN) or NI1000 (TKR5000) can be connected. The analogue (0...10 V) signal can additionally be scaled. If the input is used as digital input, it can be differentiated between a switching signal (ON/OFF) and a push button. In addition to the input signals, the ems4.KM02E module also has 6 digital outputs. The control of the digital output by a different input module (DE0xB) is possible. The state of the digital outputs is displayed by the status LEDs of the module. All physical outputs are modifiable via the local priority operating level. Slide switches with the positions AUTO-0-I are available for this purpose.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5 W (all relays switched on)
Electrical connection	2.5 mm² (Relay outputs), 1.5 mm² (all other screw terminals)
Current measurement relay output	2x, I2.5 = 0...16 A, resolution approx. 15 mA
Mounting	DIN rail mounting
Function	Shutter control / 3 point, the electrical interlock of the handsets is configurable
LED display	6x Status LED for relay outputs (green), 1x CAN bus activity (red/green)
Weight	370 g
Housing	Plastic housing
Dimensions	161.6 x 110 x 62.2 (incl. clamps) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 6 relay outputs 230 V AC, 16 A ohmic load ■ (6 x status LED - switching status of relay outputs) ■ AC1: 16 A/250 V AC ■ AC3: 8 A/250 V AC ■ 2x 3-phase (configurable via DIP switches) ■ Slide switch for local priority operating level (LOD) AUTO – 0- 1
Inputs	■ 10 universal inputs, freely configurable as: ■ PT/NI1000, resolution 12 bit, (temperature: -50 °C...+150 °C) ■ Digital inputs 24 V DC ■ 0...10 V DC, resolution 12 Bit
Local override device	■ Relay outputs: Operation via slide switch (Manual-Off-AUTO) ■ 6 inputs for feedback of all switch positions of the local override operation level
System bus	CAN bus
Interfaces	LIN, CAN

CONTINUED ON PAGE 49 ▸

◂ CONTINUED FROM PAGE 48

Other remarks	Exposed circuit parts have to be treated according to the ESD standard.

TYPE

ems4.KM02E

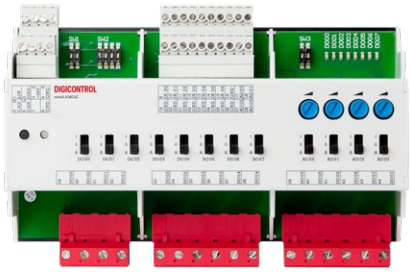
ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	

Multifunction module with integrated local priority operating level (LOD)

DIGICONTROL ems4.KM03E

Data sheet number 57084



The ems4.KM03E is equipped with 7 multi-functional inputs which serve, depending on the specific needs, as analogue, digital or temperature sensor input. Temperature sensors of type PT1000, NI1000 (DIN) or NI1000 (TKR5000) can be connected. The analogue (0...10 V) signal can additionally be scaled. If the input is used as digital input, it can be differentiated between a switching signal (ON/OFF) and a push button. In addition to the input signals, the ems4.KM03E module also has 4 analogue and 8 digital outputs. As it relates to the analogue output, the user can choose between a 0...10V and a 2...10V signal. The control of the digital outputs by means of another input module (DE0xB) is also possible. The status (switched) of the digital outputs is displayed by the status LEDs of the module. All physical outputs are modifiable via the local priority operating level. Slide switches with the positions AUTO-0-I are available for this purpose. The analogue outputs are equipped with additional potentiometers which enable the setting of the analogue voltage in the manual mode.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5.5 W (all relays switched on)
Button	Front: 1x for CAN bus configuration
Electrical connection	2.5 mm² (Relay outputs), 1.5 mm² (all other screw terminals)
Current measurement relay output	4x, I0,1,4,7 = 0...16 A, resolution approx. 15 mA
Function	Shutter control / 3 point, the electrical interlock of the handsets is configurable
Mounting	DIN rail mounting
LED display	8x Status LED for relay outputs (green), 1x CAN-Bus-Activity (red/green)
Weight	370 g
Housing	Plastic housing
Dimensions	161.6 x 110 x 62.2 (incl. clamps) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 analogue outputs 0/2...10 V DC, 4 mA current load per output ■ 8 relay outputs 230 V AC, 16 A ohmic load ■ 8 x status LED - switching status of relay outputs ■ AC1: 16 A/250 V AC / AC3: 8 A/250 V AC ■ Slide switch for local priority operating level (LOD) AUTO – 0- 1 ■ 2x 3-phase (configurable, about DIP switches)
Inputs	■ 7 universal inputs, freely configurable as: ■ PT/NI1000, resolution 12 bit (temperature: -50 °C...+150 °C) ■ Digital inputs 24 V DC ■ 0...10 V DC, resolution 12 bit

CONTINUED ON PAGE 51 ▸

◂ CONTINUED FROM PAGE 50

Local override device	■ Relay outputs: operation by means of slide switch (MANUAL-OFF-AUTO) ■ Analogue outputs: operation by means of slide switch (MANUAL-OFF-AUTO) and potentiometer (0-100%) ■ 12 inputs for feedback of all switch positions of the local operating level
System bus	CAN bus
Interfaces	LIN, CAN

TYPE

ems4.KM03E

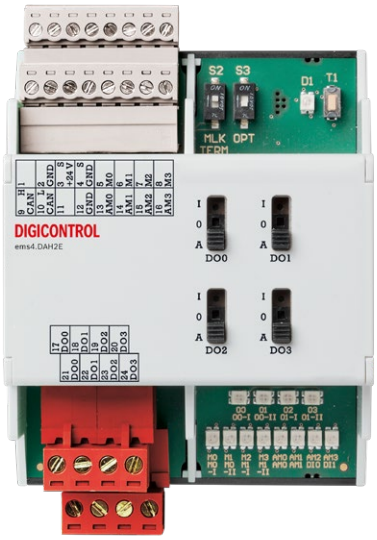
ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-161	Mounting rail bus connector HBUS 161,6	

Digital output module with local override for top hat rail mounting

DIGICONTROL ems4.DAH2E

Data sheet number 19635



Output modules with local override combine electrical outputs with the possibility of manual intervention. They are designed for installation in a control cabinet (top hat rail).ems4.DAH2E is a module for switching up to four relay outputs with an additional local override. It serves as an extension module for automation equipment of the DIGICONTROL ems series.The module's software enables the processing of all signals in the automatic and manual mode. furthermore, additional functions (processing of the fault signal inputs, command execution control...) are performed by the module software.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x CAN bus activity (Red /Green) 4x LED for relay outputs (Green) 8x LED for digital Inputs (Red/Green parameterized)
Weight	170 g
Housing	Plastic housing
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4x relay outputs ■ Potential-free normally open contact ■ Switching current 230 V AC, 6 A (AC1), 2 A (AC3)
Inputs	■ 4x four digital inputs (24 V DC) for connection to feedback message, feedback optionally via digital input or direct use of the output signal (configurable) ■ 4x digital fault message inputs (24 V DC) ■ Programmable command execution control
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.DAH2E

ACCESSORY

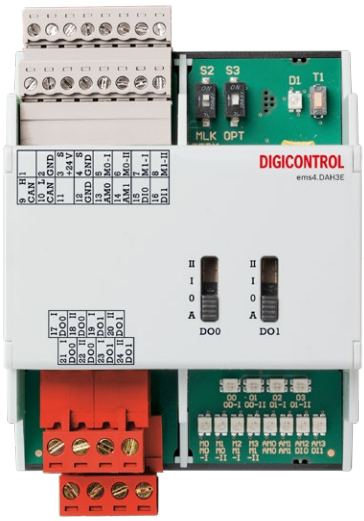
TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Digital output module with local override for top hat rail mounting

DIGICONTROL ems4.DAH3E

Data sheet number 19640

Output modules with local override combine electrical outputs with the possibility of manual intervention. They are designed for installation in a control cabinet (top hat rail).ems4.DAH3E is a module for switching up 2 x 2-stage relay outputs with an additional local override.It serves as an extension module for automation equipment of the DIGICONTROL ems series.The module's software enables the processing of all signals in the automatic and manual mode. Furthermore, additional functions (processing of the fault signal inputs, command execution control...) are performed by the module software.



GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x CAN bus activity (Red /Green) 4x LED for relay outputs (Green) 8x LED for digital Inputs (Red/Green parameterized)
Weight	170 g
Housing	Plastic housing
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 2x 2-stage relay outputs ■ Potential-free normally open contact ■ Switching current 230 V AC 6 A (AC1), 2 A (AC3)
Inputs	■ 4x digital feedback message inputs (24 V DC) ■ 2x digital fault message inputs (24 V DC) ■ 2x digital inputs (24 V DC) ■ Programmable command execution control
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.DAH3E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Analogue output module with local override for top hat rail mounting

DIGICONTROL ems4.AAH3E

Data sheet number 19340

Output modules with local override combine electrical outputs with the possibility of manual intervention. They are designed for installation in a control cabinet (top hat rail).ems4.AAH3E is a module for the output of analogue voltages 4x 0...10 V DC with additional local override.It services as an extension module for automation equipment of the DIGICONTROL ems series.The module`s software enables the processing of all signals in automatic and manual mode. furthermore, addtional funcitons (e.g. value adjustment, command execution control, ...) are performed by the module software.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.5 W (maximum load of analogue outputs)
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	CAN bus activity´: (red/green) Signaling of the analog voltage via 4 LEDs (from serial number 1543000001)
Weight	140 g
Housing	Plastic housing
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4x analogue outputs 0...10 V DC, maximum output ■ 10 bit resolution
Inputs	■ 4x analogue outputs 0...10 V DC for connection to feedback message ■ Feedback optionally via analogue input or direct use of the output signal (configurable) ■ Configurable value indication of the feedback can be adjusted to the output signal via tolerance specification ■ Prgrammable command execution control
System bus	CAN bus
Interfaces	CAN

TYPE

ems4.AAH3E

ACCESSORY

TYPE	DESCRIPTION
ems4.HBUS-71	Mounting rail bus connector H bus 71.6

System module 19“ for front installation

DIGICONTROL ems4.DE00F

Data sheet number 19710

The ems4.DE00F system module is to be arranged in a 19” subrack. This module supplies power (24 V DC system, 24 V DC emergency, CAN, LIN) to all other 19” modules. Five freely configurable signals are available for display on the module. The signals are sent from the control unit to the ems 4.DE00F, where they are displayed via LEDs (red / green). The module also contains a Piezo signal generator which enables audible signalling, e.g. of a system malfunction. Two potential-free outputs (relay changers) allow an additional signal output for any remote display panels or for switching a consumer. These can either be switched on or off in a defined manner by the control unit, or an automatic on/off function (configurable frequency) can be implemented using the ems4.DE00F.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
LED display	Via Duo LED
Weight	230 g
Housing	Aluminium front panel with front film
Dimensions	12HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 3 x push button switch, potential-free NO contact load 24 V, 30 mA ■ 2 x potential-free changeover contact 24 V AC, 2.5 A ohmic load ■ Transistor output for flashing cycle of all connected 19” modules with alarm inputs ■ Piezo signal transmitter
Inputs	1 x digital 24 V DC
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DE00F

Digital input module 19“ for front installation

DIGICONTROL ems4.DE02F

Data sheet number 19730

The ems4.DE02F is a module for recording digital 24 V DC input signals for the 19” front panel installation. The respective status of the input signal is displayed via the LEDs on the front of the unit. The colour of the LED (red / green / orange) can be configured individually for each input. The polarity of the input signals can be individually adjusted for all 8 inputs. The LEDs are displayed depending on the polarity. The input signals are debounced by the software and can be configured within broad limits. Each digital input of the module can be configured individually as a signal input, a counter or a sensor input. A “switch impulse stretching” can also be configured in the “pushbutton input” function. As an alternative to using the digital inputs, each input can be configured individually as signal output. For this operating mode applies that not the electrical signal at the module input determines LED control but the connected controller by regulating the virtual outputs (LED control). In this configuration, the LEDs are controlled exclusively by the controller and not by the signal of the digital input.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	0.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
LED display	Via Duo LED
Weight	190 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Inputs	■ 8 x digital, 24 V DC ■ Polarity switching for each input can be configured separately via sliding switches ■ Status LEDs can be configured separately for each input as RED / GREEN / ORANGE via software ■ Each individual input can be configured as a counter. The maximum counting frequency is 50 Hz (pulse / pause ratio = 1) ■ Configuration of each individual input as a “sensor input” with configurable sensor pulse extension.
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DE02F

Digital output module 19“ with LOD for front installation

DIGICONTROL ems4.DA02F

Data sheet number 19610

The ems4.DA02F is a module for switching up to 4 relay outputs with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Weight	260 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 4 x relay, potential-free NO contact, 230 V AC, 6 A ohmic load ■ Feedback with regard to manual and output value per output on the control unit Processing of short-term pulses from 20 ms ■ LED status indicator for the outputs ■ LED status indicator for bus activity ■ LED status indicator for alarm
Inputs	8 x digital, 24 V DC, short-term pulses of at least 20 ms
Local override device	■ Operation via rotary switch (MANUAL-OFF-AUTO) ■ 12 digital inputs for the feedback signal from all switch positions of the LOD
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DA02F

Digital output module 19“ with LOD for front installation

DIGICONTROL ems4.DA03F

Data sheet number 19620

The ems4.DA03F is a module for switching up to 2 x 2-stage relay outputs with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Housing	Aluminium front panel with front film
Weight	260 g
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 2 x 2 (4 internally connected relays) 230 V AC 6 A ohmic load ■ Feedback with regard to manual and output value per output on the control unit ■ LED status indicator for the outputs ■ LED status indicator for bus activity ■ LED status indicator for alarm
Inputs	6 x digital, 24 V DC, short-term pulses of at least 20 ms
Local override device	■ Operation via rotary switch (STAGE2-STAGE1-OFF-AUTO) ■ 8 digital inputs for the feedback signal from all switch positions af the LOD ■ Also active without standard supply voltage 24 V or without microprocessor and system bus CAN
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.DA03F

Analogue output module 19“ with LOD for front installation

DIGICONTROL ems4.AA03F

Data sheet number 19910

The ems4.AA03F is a module for the output of analogue voltages 2 x 0 ...10 V DC with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2.1 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Weight	220 g
Housing	Aluminium front panel with front film
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	2 analogue outputs, 0 ... 10 V DC, 10 bit (load 2.5 mA)
Inputs	2 x analogue, 0–10 V DC
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.AA03F

Analogue output module 19“ with LOD for front installation

DIGICONTROL ems4.AA04F

Data sheet number 19920

The ems4.AA04F is a module for the output of analogue voltages 4 x 0 ...10 V DC with LOD (local override device) in a 19” configuration; it is intended for installation in the front of the switch cabinet and is equipped with an integrated microcontroller and memory module for accommodating a specially coordinated programme.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	0.8 W
Electrical connection	Via screw terminals for wires up to 2.5 mm²
Mounting	19” rack
Housing	Aluminium front panel with front film
Weight	220 g
Dimensions	8HP x 3RU x 75 mm
Protection class	IP20 front, IP00 rear
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	4 analogue outputs, 0 ... 10 V DC, 10 bit (load 2.5 mA)
Inputs	4 x analogue, 0–10 V DC
System bus	CAN bus
Interfaces	1 x LIN

TYPE

ems4.AA04F

Carrier frame with viewing window

DIGICONTROL ems4.TRSF6

Data sheet number 42000

The ems4.TRSF6 carrier frame is used for mounting 6 control cards with 8 HP and 3 U each. Various 19” slide-in units with 10 HP and 3 U each can be mounted in the carrier. The built-in units are fastened with M2.5 screws. The frame is fastened in the cabinet door with 4 M6 screws. The cut edges are covered by the surrounding frame. Protection class IP54 through polyurethane seal all around. Can be secured with a lock.

GENERAL SPECIFICATIONS

Housing	Plastic ABS (PA6-GF10) and Makrolon, colour RAL 9005 black
Dimensions	313 x 180 x 48 (construction height) / 32 (installation depth) mm
Protection class	IP54
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	Fire behaviour: similar like flammability class UL94 group V2, self-extinguishing

TYPE

ems4.TRSF6

Carrier frame for ems4 front operating modules

DIGICONTROL ems4.TRSF

Data sheet number 19950

The system support frame ems4.TRSF is used for the installation of up to 10 ems4 front modules with modular width 8 and 3 height modules each. It has to be fixed with 4 screws type M6 in the control cabinet door. The cutting edges are covered by the surrounding frame. Protection class IP54 via surrounding polyurethane sealing.

GENERAL SPECIFICATIONS

Housing	Plastic ABS (PA6-GF10) and macrolon, colour: similar RAL 7039
Dimensions	483 x 178 x 54 (construction height) / 32 (installation depth) mm
Protection class	IP54
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	Fire behaviour: similar like flammability class UL94 group V2, self-extinguishing

TYPE

ems4.TRSF10

Carrier frame with viewing window

DIGICONTROL ems4.TRSF12

Data sheet number 42001

The ems4.TRSF12 carrier frame is used to install 12 control cards, each with 8 DU and 3 RU. Various 19” plug-in units with 10 DU and 3 RU each can be mounted in the carrier. The built-in units are fixed with M2.5 screws. The frame has to be fixed in the control cabinet door with 4 M6 screws. The cut edges are covered by the surrounding frame. Protection class IP54 due to polyurethane seal all around. Lockable using of a lock.

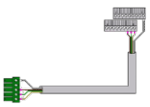
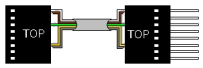
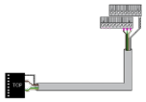
GENERAL SPECIFICATIONS

Housing	Plastic ABS (PA6-GF10) and Makrolon, colour RAL 9005 black
Dimensions	313 x 180 x 48 (construction height) / 32 (installation depth) mm
Protection class	IP54
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	Fire behaviour: similar like flammability class UL94 group V2, self-extinguishing

TYPE

ems4.TRSF12

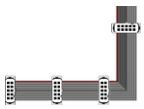
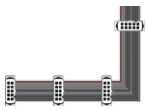
ACCESSORY

TYPE	DESCRIPTION	
ems4.VK10	The cable ems4.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of ems4 modules within a control cabinet field and as connection cable between ems4 modules in two control cabinet fields in series.	
ems4.VK20	The cable ems4.VK20 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connectors) and the module ems4.DE00F (front mounting).	
ems4.VK30	The cable ems4.VK30 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connector) and the adapter module ems4. AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	
ems2.VK10	The cable ems2.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of emsX modules (H connectors) within a control cabinet field and as connection cable between emsX modules in two control cabinets in series.	
ems2.VK20	The cable ems2.VK20 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the module ems4.DE00F (front mounting).	
ems2.VK30	The cable ems2.VK30 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the adapter module ems4.AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	

CONTINUED ON PAGE 64 ▶

◂ CONTINUED FROM PAGE 63

ACCESSORY

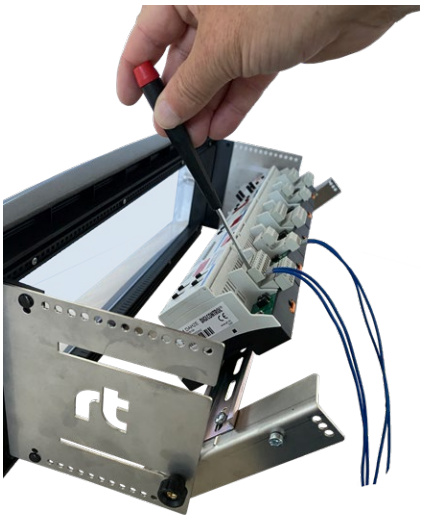
TYPE	DESCRIPTION	
ems4.FBK01	The ribbon cable ems4.FBK01 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 10 front mounting modules can be connected with each other.	
ems4.FBK02	The ribbon cable ems4.FBK02 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 11 front mounting modules can be connected with each other. One connector is located separately to enable a bus connection to another 19‘‘ rack with 10 slots.	
ems4.BP4	19” dummy plate, width 4 HP	
ems4.BP8	19” dummy plate, width 8 HP	
ems4.AH10	Protective cover for the rear of 19” systems	
ems4.AM01F	Adapter module for system connection of 19” systems	

Carrier frame for ems4 top-hat rail modules in the front

DIGICONTROL ems4.TR-HM

Data sheet number 42003

The 19-inch carrier frame ems4.TR-HM incl. viewing bonnet and corresponding cover plate enables the use of DIGICONTROL top-hat rail modules in the control cabinet front. Module rack for mounting top-hat rail housings according to DIN 43880, each 84HP and 3U (with cover plate 76HP and 3U).The frame shall be fixed in the switching cabinet door with 4 M6 screws. The cutting edges are coveres by the surrounding frame. Protection class IP54 due to polyrethange seal all around.



GENERAL SPECIFICATIONS

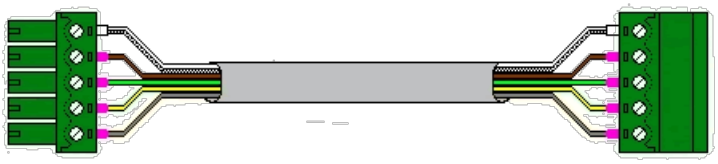
Housing	Plastic ABS (PA6-GF10) and macrolon, colour: similar RAL 7039
Dimensions	483 x 178 x 54 (construction height) / 32 (installation depth) mm
Protection class	IP54
Storage temperature	-20...+70 °C
Operating temperature	0...+50 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	Fire behaviour: similar to flammability class UL94 group V2, self-extinguishing

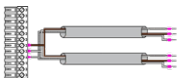
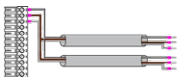
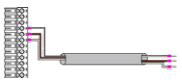
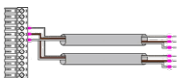
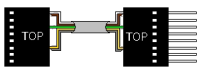
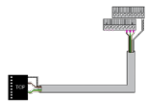
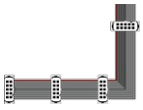
TYPE

ems4.TR-HM

Connection cables for automation equipment

DIGICONTROL



TYPE	DESCRIPTION	
ems2.MK10	The modem cable ems2.MK10 is used in the control cabinet as connection cable between the automation station (ems2.CP14D, ems2.R4D1B) and a standard modem (e.g. DC-CIMO).	
ems2.SK10	The control cabinet cable ems2.SK10 is used in the control cabinet as connection cable for the Multilink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the communication with external emsX modules.	
ems2.SK12	The control cabinet cable ems2.SK12 is used in the control cabinet as connection cable for the Multilink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.SK22	The control cabinet cable ems4.SK22 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.SK32	The control cabinet cable ems2.SK32 is used in the control cabinet as connection cable for the T bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.SK40	The control cabinet cable ems2.SK40 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the communication with external components.	
ems2.SK42	The control cabinet cable ems2.SK42 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems2.CP14D, ems2.R4D1B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems2.VK10	The cable ems2.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of emsX modules (H connectors) within a control cabinet field and as connection cable between emsX modules in two control cabinets in series.	
ems2.VK20	The cable ems2.VK20 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the module ems4.DE00F (front mounting).	
ems2.VK30	The cable ems2.VK30 is used as connection cable for the MultiLink (CAN bus) between the automation station (H connector) (ems2.CP14D, ems2. R4D1B) and the adapter module ems4.AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	
ems4.FBK01	The ribbon cable ems4.FBK01 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 10 front mounting modules can be connected with each other.	

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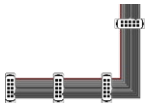
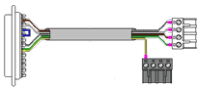
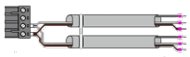
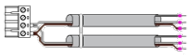
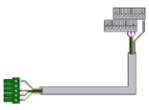
TYPE	DESCRIPTION	
ems4.FBK02	The ribbon cable ems4.FBK02 is used as connection cable for the Multilink (CAN bus) between ems4 modules (front mounting). Up to 11 front mounting modules can be connected with each other. One connector is located separately to enable a bus connection to another 19‘‘ rack with 10 slots.	
ems4.MK10	The modem cable ems4.MK10 is used as connection cable between the automation station ems4.CP02B and a modem (e.g. DC-cimo).	
ems4.MK20	The modem cable ems4.MK20 is used as connection cable between the automation station ems4.CP02B and other common modems.	
ems4.PGU	The programming and charging cable ems4.PGU is used as connecting cable for a direct connection between the automation station (ems4.CP02B) and a notebook.	
ems4.SK00	The control cabinet cable ems4.SK00 is used in the control cabinet as connection cable for the MultiLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the communication with external emsX modules.	
ems4.SK30	Use: The control cabinet cable ems4.SK30 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the communication with the automation station or the building control system.	
ems4.SK40	The control cabinet cable ems4.SK40 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems4.SK50	The control cabinet cable ems4.SK50 is used in the control cabinet as connection cable for the T bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems4.SK60	The control cabinet cable ems4.SK60 is used in the control cabinet as connection cable for the S bus (RS485) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an automation station in a bus line.	
ems4.SK70	The control cabinet cable ems4.SK70 is used in the control cabinet as connection cable for the SysLink (CAN bus) between the automation station (ems4.CP02B) and the terminal strip. It serves the integration of an additional automation station in a bus line.	
ems4.VK10	The cable ems4.VK10 is used as connection cable for the MultiLink (CAN bus) for a multiple-row system of ems4 modules within a control cabinet field and as connection cable between ems4 modules in two control cabinet fields in series.	
ems4.VK20	The cable ems4.VK20 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connectors) and the module ems4.DE00F (front mounting).	
ems4.VK30	The cable ems4.VK30 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connector) and the adapter module ems4. AM01F (serves the system connection of ems4. modules (front mounting) without module ems4.DE00F).	

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TYPE	DESCRIPTION	
ems4.VK_RF01E_1	The cable ems4.VK_RF01E_1 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 0.5 m; completely pre-assembled	
ems4.VK_RF01E_2	The cable ems4.VK_RF01E_2 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 2.0 m; completely pre-assembled	
emsX.AK24	The adapter cable emsX.AK24 is used for connecting the Multilink (CAN bus) between ems-modules with HBUS connector and ems-modules with TBUS connector.	
emsX.AK42	The adapter cable emsX.AK42 is used as connection cable for the MultiLink (CAN bus) between ems4 modules (T connector) and ems4 modules (H connector).	
emsX.LAN	The Ethernet cable emsX.LAN is used as connection cable between automation station, display and a switch or a network socket.	


Sporthalle
24.12.2021 12:00
2 / 0 Lebensgefahr
1 / 0 Anlagenzerstörung
16 / 0 Alarmmeldung
18 / 0 Störungsmeldung
5 / 0 Wartungsmeldung
100
90
80
70
60
50
40
30
20
10
0
01.12. 03.12. 04.12. 06.12. 07.12. 08.12. 09.12. 10.12. 12.12. 13.12. 14.12. 16.12. 17.12. 19.12. 20.12. 21.12. 22.12. 24.12
Ventilantrieb
Vorlauftemperatur Regler
Navigation
statische Heizung Nebenräume
Deckenstrahlplatten Halle
RLT Nebenräume
RLT Halle
Trends
Ventilantrieb
Vorlauftemperatur Regler
Vorlauftemperatur
Rücklauftemperatur

Visualisation and operation

Building and room automation shall be able to communicate with the user in a clear and understandable manner. The effective communication with people is one of the most important quality features of intelligent building automation and control systems.

The DIGICONTROL control units are characterised by comfort and high performance. Ethernet/IP, BACnet/IP and other interfaces of modern building automation and control systems allow direct integration into the BACS network. It is possible to install the operating and display units and touch panels at any location in the building and you can visualise and operate all BACS components and the integrated technical building services.

Our mobile operation is innovative: simple and intuitive, via smartphones and tablet PCs, via Internet and, if required, via Wi-Fi / WLAN. The ems5 meets all your requirements. You are independent and control everything comfortably and safely, even when you are not on site.

easy client - Ethernet - 7“ WEB touch panel

DIGICONTROL ems.EC6-7

Data sheet number 31220

7-inch display for convenient operation of automation stations based on an HTML5-capable embedded web server. An integral component is the ability to independently perform all operating and monitoring functions via the embedded web server with “Onboard MCE” functions contained in the automation stations.Furthermore, the web touch panel is used for the graphical display of plant diagrams with dynamic overlays. The WEB-touch panel is supported by the automation station type ems5.CP05E or ems2.CP14D as well as ems2.R4D1B.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	Typ. 8 W
Mounting	Front panel mounting VESA 75
Weight	approx. 1000 g
Housing	Silicone rim, ABS plastic bach casing, tempered glass front - reflection-reduced
Dimensions	approx. 195.6 x 137.6 x 38.4 mm
Protection class	IP65 front, IP40 rear
Storage temperature	-10...+60 °C
Operating temperature	-10...+60 °C
Ambient humidity	10...90 % rh., non-condensing
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity
Firmware version when using ems5 controller	iBASuite.Builder 2.41 and higher
Firmware version when using ems2 controller	No restrictions

TECHNICAL SPECIFICATIONS

Display	■ Graphic resolution WSVG / 1024 x 600 Pixel / 7” ■ 18 bit / 262.144 colours ■ Capacitive Multi-touch technology ■ 177.8 mm diagonal ■ Active display area 154.2 x 85.9 mm ■ LED backlight
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems.EC6-7

easy client - Ethernet - 10.1“ WEB touch panel

DIGICONTROL ems.EC6-10.1

Data sheet number 31230

10.1-inch display for convenient operation of automation stations, based on an HTML5-capable embedded web server. An integral component is the ability to independently perform all operating and monitoring functions via the embedded web server with “onboard MCE” functions contained in the automation stations.Furthermore, the web touch panel is used for the graphical display of plant diagrams wiht dynamic overlays. The WEB-touch panel is supported by the automation station type ems5.CP05E or ems2.CP14D as well as ems2.R4D1B.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	Typ. 11 W
Mounting	Front panel mounting with rear mounting brackets (264.0 x 180.0 mm)
Weight	approx. 2100 (without installation frame) g
Housing	Silicone rim, ABS plastic bach casing, tempered glass front - reflection-reduced
Dimensions	Approx. 278,0 x 203,6 x 33,3 (without installation frame) mm
Protection class	IP65 front, IP40 rear
Storage temperature	-10...+60 °C
Operating temperature	-10...+60 °C
Ambient humidity	10...90 % rh., non-condensing
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity
Firmware version when using ems5 controller	iBASuite.Builder 2.41 and higher
Firmware version when using ems2 controller	No restrictions

TECHNICAL SPECIFICATIONS

Display	■ Graphics resolution WXGA / 1280 x 800 pixels / 10.1” ■ 24 bit / 16.7 M colours ■ Capacitive Multi touch technology ■ 256.5 mm diagonal ■ Active display area 217 x 136 mm ■ LED backlight
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems.EC6-10.1

easy client - Ethernet - 15.6“ WEB touch panel

DIGICONTROL ems.EC6-15.6

Data sheet number 31240

15.6-inch display for convenient operation of automation stations, based on an HTML5-capable embedded web server. An integral component is the ability to independently perform all operating and monitoring functions via the embedded web server with “onboard MCE” functions contained in the automation stations. Furthermore, the web touch panel is used for the graphical display of plant diagrams with dynamic overlays. The WEB-touch panel is supported by the automation station type ems5.CP05E or ems2.CP14D as well as ems2.R4D1B.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	Typ. 13 W
Mounting	Front panel mounting with rear mounting brackets (371.0 x 218.0 mm)
LED display	Operation indicator LED green in front of device
Weight	3400 g
Housing	Silicone rim, ABS plastic bach casing, tempered glass front - reflection-reduced
Dimensions	389.3 x 246.8 x 33.3 mm
Protection class	IP65 front, IP40 rear
Storage temperature	-10...+60 °C
Operating temperature	-10...+60 °C
Ambient humidity	10...90 % rh., non-condensing
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity
Firmware version when using ems5 controller	iBASuite.Builder 2.41 and higher
Firmware version when using ems2 controller	No restrictions

TECHNICAL SPECIFICATIONS

Display	■ Graphics resolution Full HD / 1920 x 1080 pixels / 15.6” ■ 18 bit / 282.144 colours ■ Capacitive multi-touch technology ■ 396 mm diagonal ■ Active display area 344.2 x 193.6 mm ■ LED backlight
Interfaces	Ethernet 10/100 MBit/s

TYPE

ems.EC6-15.6

Solutions for holistic building automation and control systems

Anyone who wants to operate buildings in an energy-efficient way requires an innovative building automation and control system that can integrate all components of the building services.

It is no longer adequate to treat the heating and cooling energy centres, room air-conditioning systems, shading systems, façade control systems, lighting, etc. as self-sufficient trades. The building automation and control system as the core of the network has to collect and process information from all trades and transmit it to the corresponding individual trades. Innovative automation concepts consider all building states, making them independent of the building trade and obey the optimum energy yield.

All networks communicate with each other, regardless if communication standards like BACnet, KNX, DALI, M-Bus, Modbus, SMI or Profibus are applied. Furthermore, DIGICONTROL integrates manufacturer-specific connections, for example Schüco, Wilo, Grundfos, Belimo MP-Bus, ebm-papst, etc.

Interface module for integration of diverse BA-systems

DIGICONTROL ems4.SM03B

Data sheet number 19180

The ems4.SM03B module serves as communication interface with 1 x RS232 / RS485, 2x CAN capability for connecting external components, such as: heat pumps, chillers, humidifiers, boilers, solar panels, windows, etc.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	2 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
LED display	1x Duo LED (operation and CAN bus: green / error: red)
Weight	100 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	36 x 109.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

Protocols	■ Modbus RTU Master ■ Modbus RTU Slave ■ GeniBus ■ Wilo CAN ■ ERC-Bus ■ Schüco window control ■ SMI integration via Vestamatic-Gateway IF SMI RS-485
System bus	CAN bus
Interfaces	Configuration of configuration tool

TYPE

ems4.SM03B

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-35	Mounting rail bus connector H bus 35.6	

Communication interface for the integration of M-Bus

DIGICONTROL ems4.SM04E

Data sheet number 19190

The module ems4.SM04E is used for the direct readout of up to 60 M-Bus-compatible meters (e.g. heat meters, water meters, electricity meters, pulse counters). The integrated M-Bus level converter saves the use of additional components. Once configured, the primary address, bus speed and readout frequency of the connected meters are parameterised, the ems4.SM04E than takes over the self-sufficient data communication.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.2 W (without M-Bus participants), 5 W (60 M-Bus participants)
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	DIN rail mounting
LED display	1x Duo LED (operation and CAN bus: green / error: red), 1x green LED (MBus data traffic), 1x red LED (MBus overload)
Housing	Plastic housing
DIN rail bus connector CAN / LIN	Max. 30 mating cycles, contact load 1 A
Dimensions	53.6 x 109.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TYPE

ems4.SM04E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

Communication interface for the integration of KNX / EIB

DIGICONTROL ems4.KNX1E

Data sheet number 20000

The ems4.KNX1E module serves as a bi-directional gateway between the ems2 / ems4 / ems5 automation stations and the KNX/EIB instabus. The configuration tool is used to define all available KNX/EIB objects with respect to the address. The data types of the KNX/EIB objects are also determined here. The user can select between many different data types of the two standards, EIB Interworking and KNX data point. In polling mode, a data refresh method can be set for the actual values. Two options are available here: “Update according to system type” and “Cyclical polling”. Upon request, setpoints can be resent to the EIB/KNX object.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	On vertical surfaces (wall mounting, terminals at top and bottom)
LED display	1x Duo LED (operation and CAN bus: green / error: red)
Weight	120 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ LIN, CAN, KNX ■ EIB/KNX-Objects: 256 ■ Standards: EIB Interworking Standard (EIS) / KNX Datapoint Type (DPT)

TYPE

ems4.KNX1E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Communication interface for the integration of DALI

DIGICONTROL ems4.DALI

Data sheet number 57090

The module ems4.DALI is used as bidirectional gateway between the automation stations ems2 / 4 / 5 and the Digital Addressable Lighting Interface (DALI) as DALI single master. This allows the set-up of an intelligent lighting system. The DALI module supports the connection of up to 64 DALI single lights (DALI light = DALI-ECG) in up to 16 groups with a maximum current consumption of 200mA.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	5.8 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
LED display	1x Duo LED (operation and CAN bus: green / error: red)
Weight	117 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	71.6 x 109.7 x 62.6 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ LIN, CAN, DALI ■ Max. number of DALI EVGs: 64 ■ max. number DALI groups: 16

TYPE

ems4.DALI

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-71	Mounting rail bus connector H bus 71.6	

Communication interface for the integration of Belimo MP-Bus

DIGICONTROL ems4.MP01E

Data sheet number 19195

The module ems4.MP01E is used for the direct control of MP-Bus capable Belimo actuators. The module is equipped with two independent MP-Bus strands which each enable the communication with maximal 16 MP-Bus actuators. The module independently determines the speed of the connected CAN-Bus system.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.4 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Mounting	Top hat rail 35 mm
Weight	145 g
Housing	Housing for use in distribution boards in accordance with DIN 43880
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EU Declaration of Conformity

TECHNICAL SPECIFICATIONS

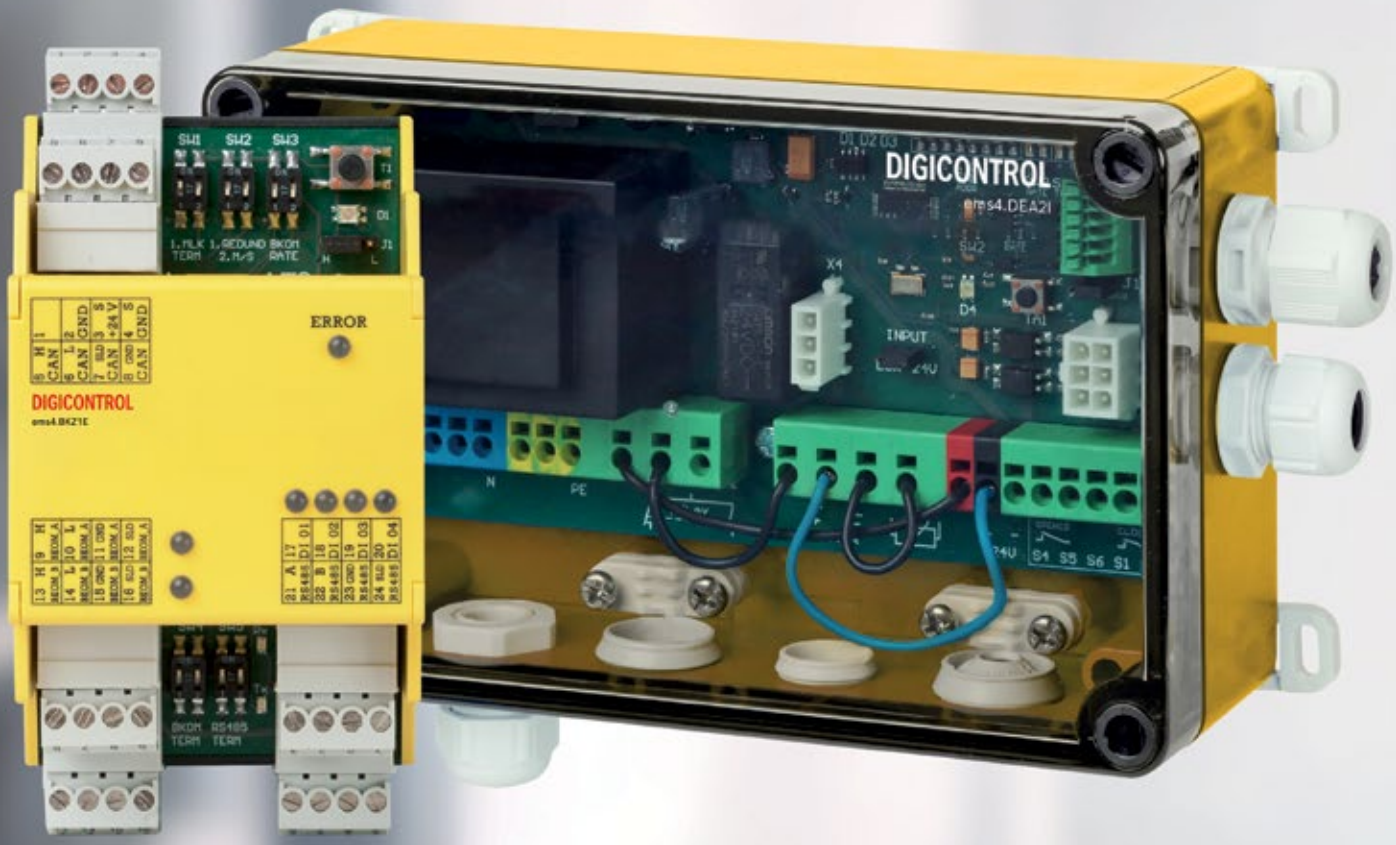
System bus	CAN bus
Interfaces	2 x MP-Bus

TYPE

ems4.MP01E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

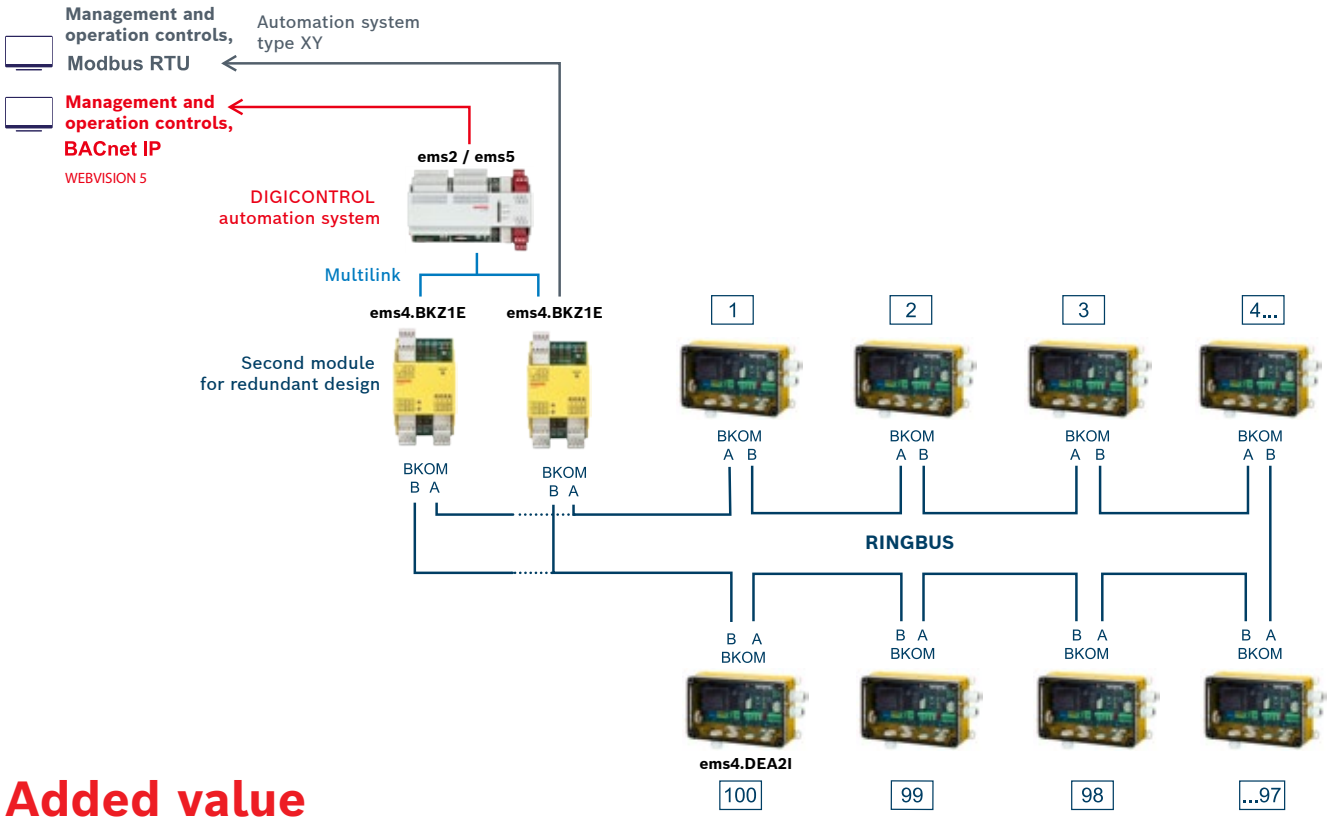


BKOM central module
DIGICONTROL ems4.BKZ1E

BKOM fire damper module
DIGICONTROL ems4.DEA2I

DIGICONTROL BKOM - The fire damper communication system with safety ring bus and Modbus interface

The DIGICONTROL BKOM system is designed for safe monitoring and control as well as for automatic test runs of fire dampers (BSK) with motorised actuators. It consists of a central module ems4.BKZ1E (in redundant design comprising two central modules), which communicates via a safety ring bus with up to 100 fire damper modules ems4.DEA2I, which can each connect a fire damper.



Added value

▶ High system availability due to BKOM ring bus topology

If a device or a connection is malfunctioning, the fire damper system continues to operate thanks to the ring bus topology. Furthermore, the used CAN technology guarantees fast responses and excellent performance. A redundant design of the central module (optional) provides even more safety.

▶ Fast analysis and diagnosis of faults

The central module uses the ring bus topology to detect and locate defective fire damper motors and interrupted or short-circuited bus connections. It provides the operator with a detailed fault description including the location of the fault source in case of a fault.

▶ Simple, semi-automated and time-saving commissioning

The addressing of the fire damper modules and the optimisation of the data transfer are automated. The commissioning of the ring bus system is supported by diagnostic tools.

▶ Integration in automation systems of all automation station types with Modbus

The Modbus interface, which is integrated in the central module, enables the BKOM system to be used as an independent unit within all automation systems, which are equipped with a Modbus interface. In this way, the BKOM system can also be used for applications other than DIGICONTROL systems.

▶ Cost-efficient

Due to the communication of the fire damper via a data bus, fewer electrical cables and a smaller cross-section are required. The simple commissioning also saves time and costs.

CAN-Central Module for Safety Ring Bus System

DIGICONTROL ems4.BKZ1E

Data sheet number 19187

The module is the intelligent central module for a safety ring bus system for connecting e.g. fire damper modules for motor actuators and other ring bus compatible I/O modules. It automatically sets up and monitors the BKOM safety ring bus system with all its subscribers. It monitors the safety ring bus, automatically locates and eliminates any faults that occur (e.g. short circuit and interruption of the bus system) by communicating with the nodes via the undisturbed second bus connection. The modules reports the detected fault to a higher-level instance with the exact details of the subscriber. By using the central module, the availability of the safety ring bus system increases considerably compared to a line structure. Due to the symmetrical distribution of data transmission within the ring, the module additionally prevents transmission errors and simultaneously reduces communication times. The centrel module is already prepared for extensions with regard to different devices on the bus thanks to its internal modular structure. A further aspect increasing the safety of the system is the possibility of carrying out a redundant structure with a further central module. In the event of a fault, the fault-free central module will take over the function and additionally increase the overall availability of the system. For external connection, the modules provides communication to an automation station as well as a Modbus RTU slave interface based os RS485. The local configuration is performed by means of dedicated setting elements. In addition, the module provides digital inputs that can influence the functions of the safety ring bus subscribers as required.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1.2 W
Button	1x for service function
Mounting	Top hat rail 35 mm
LED display	10x LED: system bus (red/green/orange), ring bus BKOM-A (green), ring bus BKOM-B (green), ringbus error (red), 4x input (red/green/orange), RS485-Tx (green), RS485-Rx (yellow)
Housing	Housing for use in distribution boards in accordance with DIN 43880
Weight	105 g
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity

TECHNICAL SPECIFICATIONS

Inputs	4 digital inputs 24 V DC (polarity configurable via jumper J1)
Interfaces	■ 3x CAN (1x system bus, 2 ring bus (BKOM)) ■ 1x RS485

TYPE

ems4.BKZ1E

CAN Field Bus Fire Damper Module for Ring Bus System

DIGICONTROL ems4.DEA2I

Data sheet number 19851

The module is used for direct connection of a motorised fire damper with feedback signals and replaces the module ems4.DEA1I. The module is suitable for both 230 V and 24 V actuators. It enables the fire damper to be closed on a test basis via the system bus with simultaneous monitoring of the end positions. The direct connection of the fire damper actuator (voltage and feedback) is performed via standardised connection plugs on top of the connection terminals. An external thermoelectric tripping device is provided for connection. Due to its dual communication interface, ems4.DEA2I is suitable for use in a highly available ring bus system. This ensures continued communication in the event of a fault in the bus system, e.g. due to a short circuit or interruption. Thanks to its installation housing, the module is suitable for direct mounting in the immediate vicinity of the fire damper.

GENERAL SPECIFICATIONS

Voltage	230 V AC +/- 10 %, integrated fine-wire 5x20 mm, fuse 200 mA / 250 V AC
Power consumption	10 W (incl. load)
Inrush current	0.8 A for approx. 3 ms (without load)
Button	1x for service function
Electrical connection	Spring terminals CAN bus: 0.5 mm² All other Connections: 2.5 mm²
Mounting	Wall mounting
LED display	CAN bus activity: (red/green)
Weight	750 g
Housing	Housing for industrial installation polycarbonat (box: fiberglass reinforced, lid: transparent)
Dimensions	180 x 110 x 63 mm
Protection class	IP54
Storage temperature	-10...+60 °C
Operating temperature	0...+60 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 1 potential-free relay output for controlling the motorised fire damper 24 V DC or 230 V AC ■ Maximum switching capacity 1500 VA load AC15 (230 V AC) ■ 24 V DC, 300 mA, maximum inrush current 5.2 A for max. 5 ms
Inputs	■ Two digital inputs (galvanically separated) for connecting the fire damper position ■ Configurable 24 V DC or potential-free
Interfaces	2x CAN

TYPE

ems4.DEA2I

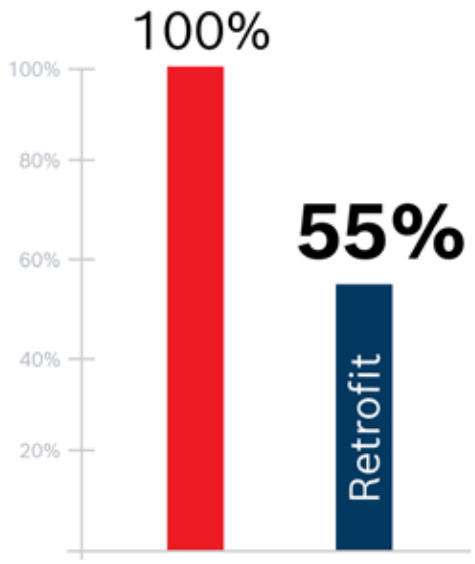

SW1
SW2
RX
TX
DIGICONTROL
ems4.RF01E
5 H CAN LIN
6 L CAN GND
7
8 GND
3 S +24 V
4 S GND

Cost-saving and effective refurbishment of existing DIGICONTROL and Saia systems

If new and extended requirements for the technical building equipment are laid down, the automation system usually has to be extended as well.

Although the hardware of the automation station is still in a good state, the entire automation station is replaced either because the existing automation station cannot be extended in a way to meet the requirements or due to limited availability.

ems4.RF01E enables the extension, refurbishment and repair of existing Saia and DIGICONTROL PCD 1-, PCD 2-, PCD 4- and PCD 1.NT automation systems without discarding the existing I/O automation hardware. Only the CPU module has to be replaced. Most switchgear cabinet components and the existing building management system can be kept. Therefore the expenses for the modification are significantly lower since only the required modules will be replaced / extended instead of replacing the entire system.



Savings up to 45% are realistic if you use DIGICONTROL Retrofit

A variety of applications

It is appropriate to use ems4.RF01E if new functions and extended requirements for an existing DIGICONTROL automation system are laid down which can be met without replacing the complete existing hardware. Benefit from the wide range of applications if you want:

- Integrate automation stations into the building automation network.
- To repair defective automation system hardware.
- To perform the migration - the customisation of existing building automation systems to new circumstances within a building.
- To extend the existing building automation system by additional building parts and components of the technical building equipment.
- To integrate further technical building equipment systems in the building automation system.
- To modernise building automation systems compliant to the BACnet standard without the need of replacing the automation station hardware.

The time factor – fast retrofitting during operation

The utilisation of the existing hardware can be continued by deploying the ems4.RF01E. Retrofitting the control cabinet can be performed quickly and easily because you just have to install the ems4.RF01E module and the new CPU of the automation station. The extension of the wiring can be carried out within a few hours and during operation without significant interruption. Replacing the entire automation system on-site would be by far more time-intensive and can only be realised if the complete system was switched off before.

Energy-efficiency and comfort

By using ems4.RF01E during the refurbishment process, building operators have the opportunity to update their control strategies and to improve the user-friendliness of the building automation system.

Planning and documentation

The expenses for planning and documentation can be reduced to a minimum by deploying ems4.RF01E as the building automation system is extended effectively instead of being reconstructed completely.

Communication interface for the integration in existing DIGICONTROL systems

DIGICONTROL ems4.RF01E

Data sheet number 19185

The DIGICONTROL Retrofit module ems4.RF01E enables the connection of ems automation stations to older types of input/output cards (I/O cards) in existing plants. Therefore older types of existing automation systems can be modernised easily and cost-efficiently. If there are new or extended requirements on the systems of the technical equipment of a building, usually the automation system must be extended as well. Although the hardware of the automation station is still in good condition, the complete automation system will be replaced as the existing automation system cannot be extended in a way to meet the requirements or it is not available anymore. The module ems4.RF01E enables the extension, refurbishment and repair of existing DIGICONTROL automation stations of the types PCD 1 / PCD 2 / PCD 4 / PCD 1.NT while still using the existing I/O automation hardware. Only the CPU modules will be replaced by a combination of an ems CPU and the Retrofit module. The control of the switchgear cabinet will be kept. The connection between the Retrofit module and the I/O modules is performed by means of on of the cables which are available as accessories. There are two different cables available depending on the required length (see accessories).

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	Max. 5 W
Button	Front: 1x for CAN bus configuration
Mounting	DIN rail mounting
LED display	I/O-Bus: 1x send (green) 1x receipt (yellow) CAN-Bus activity: (red /green) (front view)
Housing	Housing for use in distribution boards in accordance with DIN 43880
Weight	105 g
Dimensions	53.6 x 99.7 x 62.2 mm
Protection class	IP20
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ I/O bus ■ LIN bus

TYPE

ems4.RF01E

ACCESSORY

TYPE	DESCRIPTION	
ems4.HBUS-53	Mounting rail bus connector H bus 53.6	

CONTINUED ON PAGE 91 ▸

◂ CONTINUED FROM PAGE 90

ACCESSORY

TYPE	DESCRIPTION	
ems4.VK_RF01E_1	The cable ems4.VK_RF01E_1 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 0.5 m; completely pre-assembled	
ems4.VK_RF01E_2	The cable ems4.VK_RF01E_2 is used as connection cable between the Retrofit module ems4.RF01E and an older type of a DIGICONTROL-CPU. Cable length 2.0 m; completely pre-assembled	
ems4.AM_RF01E_1	The adaptor ems4.AM_RF01E_1 is used for connecting the Retrofit module ems4.RF01E with a SAIA PCD1. The adaptor is put on the existing bus connector (replacing the DIGICONTROL-CPU of older type), screw-mounted and connected with the Retrofit module via cable.	
ems4.AM_RF01E_4	The adapter ems4.AM_RF01E_4 serves for the connection of the Retrofit module ems4.RF01E at a PCD4 CPU slot. The adapter will be installed in the available slot replacing the CPU and will be connected to the Retrofit module by cable.	


ems 2
economic modular system
ESC
OK
CLR

Great benefit - Low costs - Versatile applications

The DIGICONTROL ecs3 Retrokit enables operators of DIGICONTROL ecs3 and ecs3.+ automation stations to have their existing automation stations replaced by automation stations of the latest DIGICONTROL generation - inexpensively, quickly and, in most cases, even without impairing the ongoing operation of the building.

The Retrokit can be applied when new requirements are specified for the ecs3 or ecs3.+ automation station, which it may not be able to meet, or simply when the ecs3 or ecs3.+ is defective.

DIGICONTROL ecs3/ecs3.+/Fr
Fronttafeleinbau

DIGICONTROL ecs3/ecs3.+/G
Montage auf der Grundplatte

Retrokits in practical use:

- Replacing ecs3 / ecs3.+ automation stations
- Integration of the automation system into existing Ethernet networks, BACnet and remote maintenance
- Customisation of the automation system to new requirements and energy efficiency measures in the building.
- Extension of the automation system to incorporate additional building components and components of technical building services.
- BACnet-compliant modernisation, as the Retrokit also includes a BACnet Building Controller (B-BC) of the latest generation if necessary (see accessories).
- Remote maintenance and operation of the automation system by means of the “Embedded webserver“, a management and operation controls and, if necessary, new touch panels.

Fast and cost-effective conversion during operation

The Retrokit is pre-wired ready to plug in, so that the existing ecs3 / ecs3.+ can simply be „unplugged“ and removed. The existing ecs3.+ plugs are simply inserted into the sockets of the Retrokit. The retrofitting times are therefore reduced to a minimum. For front mounting, use the supplied drilling template for the cut-out. Feel free to take advantage of our label service for marking the manual operating level: We produce the finished labels for you.

Update of the existing automation station software

The existing ecs3.+ - software is simply updated to the latest webCADpro version and loaded into the automation station ems2.CP14D of the Retrokit, and ready to go.

The control cabinet remains as it is

Modifications of the control cabinet control are not necessary for the installation of the Retrokit. If necessary, it is of course possible to add additional control modules, provided the necessary space is available in the cabinet.

More performance and comfort

The Retrokit contains a DIGICONTROL automation station of the latest generation, whose advantages can be enjoyed unrestrictedly by the operators after the retrofit: Enhanced processor performance leads to shorter response times, integration into modern management control systems and Ethernet/BACnet/IP networks means improved convenience for the operator.

Improved energy efficiency and cost-effectiveness

Due to the reorientation in dealing with the environment and energy and the accompanying revision of standards, a lot has happened in the area of energy efficiency in buildings in the recent years.
By using the Retrokit, building operators have the opportunity in the course of a modernisation to update their automation strategies to the latest state of the art.

Minimal effort for planning and documentation

The use of the Retrokit minimises the effort for the planning and documentation of the refurbishment or repair, as the Retrokit is pre-wired, ready to plug in and fully documented. The corresponding circuit diagram sheets are enclosed with the Retrokit and are simply inserted.

System for repairing DIGICONTROL ecs3 existing plants (front installation)

DIGICONTROL ems2.RTR-ECS-F

Data sheet number 18080

The DIGICONTROL retrokit ems2.RTR-ECS-F enables operators of DIGICONTROL ecs3 automation systems to exchange their existing ecs3 automation stations (AS) for AS of the latest DIGICONTROL generation. This is accomplished quickly and cost-effectively, while the building is in operation. The retrokit can be used when new requirements are imposed on the automation station (e.g. Ethernet connectioin, graphical Webserver, BACnet, remote maintenance and operation) which cannot be met by an ecs3 automation station. Furthermore, the use of the retrokit in case of a defect in an existing plant with ecs3 automation station represents an economical alternative to a new construction. The original ecs3 plugs are connected to the prepared plug adapters of the retrokit. As a result, no wiring is required.DIGICONTROL ems2 can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardized Device Profile L (ANSI ASHRAE standards 135-2001 or DIN EN 16484-5). The communication is performed via BACnet/IP and BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	13 W
Electrical connection	Via screws terminals for wires up to 2.5 mm². Ready-to-plug mounting on existing System (ecs3 terminals)
Mounting	Front Panel mounting directly with Frame and door
LED display	ems2.CP14D: 24 V-LED (green), RUN-LED (green), ST-LED (red) ems4.KM03E: 8 x status LED for relay outputs (green), 1 x CAN bus-activity (red / green) ems4.DE07E: CAN bus-activity (red / green), LED 01 on printed circuit board, 10 signal LEDs on device front. LED colour configurable via software: green, red, orange
Housing	Material Plastic ABS (PA6-GF10) and macrolon
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 8 analogue outputs 0...10 V DC, 10 bit resolution, 3 mA ■ 14 digital relay outputs 230 V AC / 6 A / potential-free normally open contact
Inputs	■ 21 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit resolution ■ Digital inputs 24 V DC ■ 0...10 V DC, 12 bit resolution ■ 10 digital inputs 24 V DC
Display	Integrated display with multifunctional keyboard for setpoint input, query of present values, notifications etc.
Local override device	■ 8 relay outputs: operation via sliding switch (MANUAL-OFF AUTO) ■ 4 analogue outputs: operation via sliding switch (MANUAL-OFF AUTO) and potentiometer (0-100 %) ■ 12 inputs for feedback of switch positions of all local override operating levels
Interfaces	■ 2 x RS232 / RS485, one of them is an RS232 (COM-B) with DCD-, DSR und DTR signal for modem operation ■ 2 x CAN bus for max. 1 MBit/s, bus connection via slide switch ■ 1 x LIN bus ■ Ethernet interface 10/100 MBit, RJ45 at the bottem of the housing Link-LED

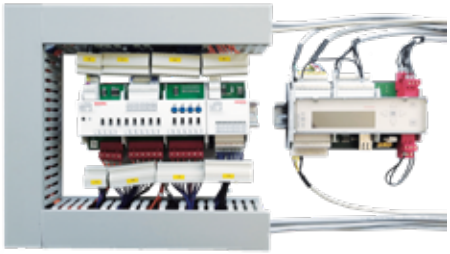
TYPE LIST

TYPE	DOOR HINGE
ems2.RTR-ECS-FL	Left
ems2.RTR-ECS-FR	Right

System for repairing DIGICONTROL ecs3 existing plant (baseplate mounting)

DIGICONTROL ems2.RTR-ECS-G

Datenblattnummer 18082



The DIGICONTROL retrokit ems2.RTR-ECS-G enables operators of DIGICONTROL ecs3 automation systems to exchange their existing ecs3 automation stations (AS) for AS of the latest DIGICONTROL generation. This is accomplished quickly and cost-effectively, while the building is in operation. The retrokit can be used when new requirements are imposed on the automation station (e.g. Ethernet connection, graphical Webserver, BACnet, remote maintenance and Operation) which cannot be met by an ecs3 automation station. Furthermore, the use of the retrokit in case of a defect in an existing plant with ecs3 automation station represents an economical alternative to a new construction. The original ecs3 plugs are connected to the prepared plug adapters of the retrokit. As a result, no wiring is required. DIGICONTROL ems2 can be used as BACnet® Building Controller (B-BC) according to the BACnet® Standardized Device Profile L (ANSI ASHRAE standards 135-2001 or DIN EN 16484-5). The communication is performed via BACnet/IP and BACnet MS/TP.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 15 %
Power consumption	13 W
Electrical connection	Via screws terminals for wires up to 2.5 mm². Ready-to-plug mounting on existing System (ecs3 terminals)
Mounting	Baseplate mounting
LED display	ems2.CP14D: 14 V-LED (green), RUN-LED (green), ST-LED (red) ems4.KM03E: 8 x status LED for relay outputs (green), 1 x CAN bus-activity (red / green) ems4.DE07E: CAN bus-activity (red / green), LED D1 on printed circuit board, 10 signal LEDs on device front. LED colour configurable via software: green, red, organge
Standards/rules/guidelines/ approvals	See EC Declaration of Conformity

TECHNICAL SPECIFICATIONS

Outputs	■ 8 analogue outputs 0...10 V DC, 10 bit resolution, 3 mA ■ 14 digital relay outputs 230 V AC / 6 A / potential-free normally open contact
Inputs	■ 21 universal inputs, freely configurable as: ■ PT/NI1000, 12 bit resolution ■ Digital inputs 24 V DC ■ 0...10 V DC, 12 bit resolution ■ 10 digital inputs 24 V DC
Display	Integrated display with multifunctional keyboard for setpoint input, query of actual values, notifications etc.
Local override device	■ 8 relay outputs: operation via sliding switch (MANUAL-OFF AUTO) ■ 4 analogue outputs: operation via sliding switch (MANUAL-OFF AUTO) and potentiometer (0-100 %) ■ 12 inputs for feedback of switch positions of all local override operating levels
Interfaces	■ 2 x RS232 / RS485, one of them is an RS232 (COM-B) with DCD-, DSR and DTR signal for modem operation ■ 2 x CAN bus for max. 1 MBit/s, bus connection via slide switch ■ 1 x LIN bus ■ Ethernet interface 10/100 MBit, RJ45 at the bottom of the housing Link-LED

TYPE

ems2.RTR-ECS-G


20.5
°C
17:21
TU
AUTO
ECO
1
2

ROOM4D - Room automation solutions

The DIGICONTROL room automation concept is called ROOM4D. „4D“ represents the four dimensions of modern room automation: efficiency, intelligence, comfort and design.

Enhanced comfort and efficiency in room automation

ROOM4D comprises unique solutions to network the rooms and trades of building automation. It provides ideal settings for heating, ventilation, air conditioning, lighting and shading, optimising comfort and increasing efficiency in every room. All areas are covered, from individual trades to fully integrated buildings. Furthermore, ROOM4D uses sophisticated algorithms to support you if you wish to combine optimum comfort with energy efficiency while ensuring minimum operating costs.

ROOM4D meets the requirements of VDI 3814. The sensors and sensor elements comply with VDI / VDE 3512 (quality class A or tolerance class A-TGA), one of the essential basic requirements for energy-efficient room automation. ROOM4D meets the demands of DIN EN 15232 up to the highest efficiency class.

Integrated room automation solutions

ROOM4D contains all components for implementing holistic room automation solutions and provides various integration modules for all areas of application. As an integral part of building automation and the system engineering - WEBPROJECT - ROOM4D is consistent from the sensor terminal to the management and control equipment ¬ WEBVISION 5, starting with the planning, through the construction to the long-term building operation.

www.digicontrol.info/room4d

You can find more information on the room automation system ROOM4D on our homepage at **www.digicontrol.info/room4d**.

2.5.1 ROOM CONTROL AND DISPLAY DEVICES

2.5.2 RA NETWORK COMPONENTS

2.5.3 COMPREHENSIVE SOLUTIONS BY MEANS OF RADIO TECHNOLOGY - ENOCEAN

ROOM4D Room operating device/controller with integrated CAN bus interface

DIGICONTROL R4D.RC01 | R4D.RC02 | R4D.RC03 | R4D.RC04

Abb. R4D.RC01 / R4D.RC02

Abb. R4D.RC03 / R4D.RC04

R4D.RC01 / RC02 / RC03 / RC04 are room operating devices/controllers with an embedded CAN bus interface for integration into the room automation network.
R4D.RC01 and RC02 have operating elements on the front of the device. R4D.RC03 and RC04 are not equipped with operating elements.
For the purpose of room temperature control, the R4D.RC01 and RC03 are equipped with two digital outputs (0 V / 24 V DC) which can be controlled either switching or pulse-width modulating (PWM). The R4D.RC02 and RC04 are equipped with two analogue outputs (0...10 V DC). The superordinate controller or the integrated PI controllers for the heating or cooling mode take over the control of the actuators. The room temperature is detected via the integrated temperature sensor. All information is sent to the superordinate controller via the connected bus system.
Additionally, the devices have four digital inputs which can be assigned special functions (for example, a window contact).
There are 4 operating modes provided for energy-efficient operation (comfort, absence, night and extension of utilisation time). The current mode of operation is displayed via the 3 green status LEDs. A unique set point temperature for each operating mode is defined for internal control. The user can set the temperature for the Comfort mode using the set point value switch by maximum four steps up or down. Shifting the set point value is indicated with the help of 5 LEDs placed around the set point switch. The user can set his presence or absence by using the presence button.

TECHNICAL DATA

Voltage	24 V DC
Inputs	4 digital inputs over 0 V output signal for internal control (window contact, dew-point monitor, motion detector, ...)
Power consumption	0.5 W (without load)
Sensor	NTC 10 kΩ
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Operating elements	■ Set-point switches (max. ± 4 steps) ■ Presence button ■ 3 status LEDs for displaying the mode (present, absent, night, extension of utilisation time) ■ 1 ECO LED (red/orange/green) controlled by the AS ■ 5 LEDs for indicating the set-point shifting (2x blue, 1x orange, 2x red)
Mounting	In a flush-mounted Ø 55mm connection box
Interfaces	CAN bus
Housing	ABS Polyman HH3, reflector white + 4 % UV
Dimensions	82 x 82 x 34 (with terminal clamp) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+40 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3

CONTINUED ON PAGE 99 ▸

◂ CONTINUED FROM PAGE 98

TYPE LIST

TYPE	DATA SHEET	OUTPUTS	FRONT PANEL	COLOUR
R4D.RC01	17200	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	with operating elements	white
R4D.RC01-ALU	17200	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	with operating elements	aluminum (on request)
R4D.RC01-ANT	17200	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	with operating elements	anthracite (on request)
R4D.RC02	17201	nominal current max. 4 mA per output	with operating elements	white
R4D.RC02-ALU	17201	nominal current max. 4 mA per output	with operating elements	aluminum (on request)
R4D.RC02-ANT	17201	nominal current max. 4 mA per output	with operating elements	anthracite (on request)
R4D.RC03	17202	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	without operating elements	white
R4D.RC03-ALU	17202	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	without operating elements	aluminum (on request)
R4D.RC03-ANT	17202	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	without operating elements	anthracite (on request)
R4D.RC04	17203	nominal current max. 4 mA per output	without operating elements	white
R4D.RC04-ALU	17203	nominal current max. 4 mA per output	without operating elements	aluminum (on request)
R4D.RC04-ANT	17203	nominal current max. 4 mA per output	without operating elements	anthracite (on request)

ACCESSORY

TYPE	DESCRIPTION	
R4D.RC01-02-HwD	For R4D.RC01/02 - Device socket for cavity wall installation in airtight design with sealing membranes	

ROOM4D Room operating device/controller with integrated data bus interface and multi-function display

DIGICONTROL R4D.RC05... | R4D.RC06...

R4D.RC05 and RC06 are room operating devices/controllers that control two valve outputs for room temperature regulation. The R4D.RC05 has two digital outputs for this purpose (0 V / 24 V) to open and close the valves. The R4D.RC06 is provided with two analogue outputs, 0...10 V for continuous control. The valves are controlled via a supervisory automation station (AS) or by an integrated heating and cooling PI controllers. The R4D.RC05/RC06 measures the room temperature using an integrated temperature sensor for room temperature control. The R4D.RC05/RC06 has two digital inputs apart from the 2 outputs. These can be assigned optionally to switches, buttons or special functions (for example, a window contact). There are six freely configurable buttons and a universal rotary encoder available for operation. Moreover, commands for switching on lights can be configured with the help of the integrated proximity sensor. The integrated multi-function display is freely configurable and can be adapted to suit the respective application.

TECHNICAL DATA

Voltage	24 V DC
Inputs	2 digital inputs over 0 V output signal
Power consumption	1.08 W (no load with activated backlight)
Sensor	NTC 10 kΩ
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Operating elements	■ Multi function display ■ Rotary encode ■ 6 Buttons ■ 1 Proximity sensor
Mounting	Cavity wall installation in air-tight electronics tunnel twin-chamber box
Weight	270 g
Dimensions	88 x 173 x 30 (with terminal clamp) mm
Protection class	IP20
Storage temperature	-10...+50 °C
Operating temperature	+5...+40 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3

TYPE LIST

TYPE	DATA SHEET	OUTPUTS	INTERFACES	COLOUR
R4D.RC05	17210	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	CAN bus	black
R4D.RC05-W	17210	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	CAN bus	white
R4D.RC05-MO	17212	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	RS485-Modbus-RTU (Slave)	black
R4D.RC05-MO-W	17212	nominal current max. 0.4 A per output; max. short-circuit current 1.2 A	RS485-Modbus-RTU (Slave)	white
R4D.RC06	17211	nominal current max. 4 mA per output	CAN bus	black
R4D.RC06-W	17211	nominal current max. 4 mA per output	CAN bus	white

CONTINUED ON PAGE 101 ▸

◂ CONTINUED FROM PAGE 100

TYPE LIST

TYPE	DATA SHEET	OUTPUTS	INTERFACES	COLOUR
R4D.RC06-MO	17213	nominal current max. 4 mA per output	RS485-Modbus-RTU (Slave)	black
R4D.RC06-MO-W	17213	nominal current max. 4 mA per output	RS485-Modbus-RTU (Slave)	white

ACCESSORY

TYPE	DESCRIPTION	
R4D.RC05-06-HwD	for R4D.RC05/06 - Air-tight electronics tunnel twin-chamber box for cavity wall installation with additional sealing lip and with separator wall and cover that can be wallpapared	

Industrial PoE Ethernet Switch

DIGICONTROL IE-SW-BL06-2TX-4POE

Data sheet number 56030

The switch offers a solution for the use of Power over Ethernet. 4 x IEEE 802.3af / at compliant PoE ports, with integrated DC / DC converter for Supply of 48 V PoE devices over the entire input voltage range of 24 to 48 VDC, intelligent power consumption detection and classification.

TECHNICAL DATA

Number of ports	2xRJ45 10/100 BaseT(X), 4xRJ45 10/100 BaseT(X) PoE+
Technology	IEEE 802.3af for Power-over-Ethernet, IEEE 802.3at for Power-over-Ethernet, IEEE 802.3 for 10BaseT, IEEE 802.3u for 100BaseT(X), IEEE 802.3x for flow control
Power output	Max. (PoE) 120 W at 24/48 V DC (18 to 57 V DC)
Voltage	12 / 24 / 48 V DC, 2 redundant inputs
Current consumption	5.55 A at 24 V DC
Input voltage	24/48 V DC
Power consumption	Max. 13.2 W
Mounting	Mounting rail
Housing	Aluminium
Weight	375 g
Dimensions	50 x 114 x 70 mm
Protection class	IP30
Storage temperature	-40...+85 °C
Operating temperature	-10...+60 °C
Ambient humidity	5...95 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	FCC Part 15 Subpart B Class A, EN 55032, EN 55024, IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, IEC 61000-4-3 RS: 80 MHz to 1 GHz: 20 V/m, IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, IEC 61000-4-5 Surge: Power: 2 kV; Signal: 2 kV, IEC 61000-4-6 CS: 10 V, EN 61000-4-8

TYPE

IE-SW-BL06-2TX-4POE

BACnet router

DIGICONTROL R4D.IP-MS/TP

Data sheet number 56025

The BACnet router R4D.IP-MS/TP allows the networking of the BACnet topology ISO8802-2 (well known as BACnet/Ethernet), BACnet/IP and MS/TP (serial BACnet networks based on RS485). R4D.IP-MS/TP is a hardware solution, capable for the installation in a control cabinet.

TECHNICAL DATA

Voltage	15...36 V DC / 24 V AC
Current consumption	200 mA max.
Mounting	Mounting rail
Dimensions	94 x 30 x 75 mm
Protection class	IP30
Operating temperature	0...+45 °C

TYPE

BACnet Router

Communication interface for the integration of EnOcean

DIGICONTROL ems4.ENO1B

Data sheet number 21000

The ems4.ENO1B bi-directional gateway module acts as an interface with EnOcean-compatible sensor and actuator modules. This module can be used to process data from wireless sensors in the ems4 / ems2 / ems5 systems. The bi-directional functions of this gateway also enable superordinate control of wireless receivers via the ems4 / ems2 / ems5 system. The gateway only uses those wireless sensors that the user has defined using the configuration tool (webCADpro / iBASUite.builder) to evaluate and forward the data. In learning mode, the user can assign the gateway module to the desired switching actuators. This enables the user to control the switching of these actuators via the user program of the automation station and therefore via the management lever. Thanks to the transparent data interface that the gateway offers between automation stations and EnOcean transmitters, it is possible to use wireless modules from various manufacturers of the EnOcean Alliance without having to make any adjustments to the gateway.

GENERAL SPECIFICATIONS

Voltage	24 V DC +/- 10 %
Power consumption	1 W
Electrical connection	Via screw terminals for wires up to 1.5 mm²
Weight	Approx. 175 g
Housing	Installation housing
Dimensions	82 x 80 x 55 mm
Protection class	IP42
Storage temperature	-10...+70 °C
Operating temperature	+5...+45 °C
Ambient humidity	Up to 85 % rh. without condensation acc. to VDE 0160, EN 50178, Class 3K3
Standards/rules/guidelines/ approvals	EN 300220-2: 2018-09, EN 301489-3: 2019-03, EN 61326-1: 2013-07, DIN EN 61010-1:2020-03, EN 63000: 2019-05

TECHNICAL SPECIFICATIONS

System bus	CAN bus
Interfaces	■ CAN bus (MultiLink), EnOcean ■ Wireless system 868 MHz ■ Number of EnOcean-devices: 128 sensors and actuators

TYPE

ems4.ENO1B

EnOcean Radio Outdoor Temperature Sensor

DIGICONTROL R4D.ATF

Data sheet number 60170

Battery- and wireless radio outdoor sensor for temperature and ventilation control. The radio outdoor sensor transfers the current temperature to the EnOcean communication interface ems4.ENO1B in cyclical intervals. With integrated temperature sensor and solar energy storage for maintenance-free operation.

TECHNICAL DATA

Measuring range	Temperature: -20...+60 °C, configured via airConfig
Frequency band	EnOcean, standard frequency 868.3 MHz
Sending/reception interval	Configured via airConfig, Default: WakeUp time = 100 sec., Heartbeat cycle = 10x
Accuracy	@21 °C Temperature: +/- 1 % from measuring range
Measured variable	Temperature
Power generation	Solar cell, internal super cap, maintenance - free
Weight	110 g
Housing	PA6, pure white, cover PC, transparent with quick - release screws
Dimensions	78 x 58 x 45.5 mm
Protection class	IP65 according to EN60529
Ambient humidity	Max. 85 % rh., short term condensation
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EG Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 Product safety: EN 60730-1: 2002 The general registration for the radio operation is valid for all EU countries as well as for Switzerland. FCC ID: S3N-SRXX This device complies with Part 15 of the FCC Rules. The operation is subject to the following conditions: (1) The device may not cause interferences and (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device. Attention: Changes or modifications of the device which have not been explicitly permitted lead to suspension of the FCC admission to operation.

TYPE

R4D.ATF

EnOcean Radio Ceiling Multi Sensor 360°

DIGICONTROL R4D.BW-LS

Data sheet number 60190

The radio ceiling multi sensor R4D.BW-LS is designed for motion detection and brightness measurement in living and office spaces.
Transmission to the EnOcean communication interface ems4.ENO1B is carried out by means of radio telegrams according to the EnOcean standard.

TECHNICAL DATA

Voltage	3x battery LS14250 (1.1 Ah / 3.6 V / 1/2 AA)
Measuring range	Range of Illumination: 0...510 Lux Action: 360°
Sensor	Sensor action PIR “passive infrared”
Frequency band	EnOcean, STM, Standard frequenzy 868,3 MHz
Technology	EnOcean, STM
Transmission range	Approx. 300 m free field, approx. 30 m within buildings
Sending/reception interval	Every 100 seconds if brightness changes >10 Lux and no motion is detected Every 1000 seconds if brightness changes <10 Lux and no motion is detected Every 100 seconds if brightness changes <10 Lux and motion is detected Every 10 seconds if brightness changes >10 Lux and motion is detected Immediately upon status change from no motion to motion
Accuracy	typ. +/- 30 Lux
Measuring value detection	Every 100 seconds (factory setting and no motion)
Lifespan	Battery min. 6 years (with factory setting, 1000 telegrams per day and original battery)
Housing	Materil ABS, colour pure white, similar to RAL 9010
Weight	75 g
Protection class	IP20 according to EN60529
Storage temperature	-10...+60 °C
Operating temperature	0...+50 °C
Ambient humidity	Max. 70 % rh. (non-condensing)
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EC Standards: ETSI EN 301 489-1: 2001-09 ETSI EN 301 489-3: 2001-11 ETSI EN 61000-6-2: 2002-08 ETSI EN 300 220-3: 2000-09 The general registration for the radio operation is valid for all EU countries as well as for Switzerland.

TYPE

R4D.BW-LS

EnOcean Radio Outdoor Light Sensor

DIGICONTROL R4D.AHKF

Data sheet number 60160

Wireless light sensor for blind systems. Can also be used to control light at sunset. Designed for integration into an EnOcean network.

TECHNICAL DATA

Measuring range	0...510 Lux, 0...1000 Lux (10 Bit), 0...1020 Lux, 300...30.000 Lux (Standard), 600...60.000 Lux
Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Technology	EnOcean (IEC 14543-3-10)
Sending/reception interval	Configurable via airConfig, Default: Wake-up time = 100 sec., Heartbeat cycle = 10x
Measured variable	Light
Power generation	Solar cell, internal super cap, maintenance - free
Weight	120 g
Housing	PA6, pure white, cover PC, transparent with quick - release screws
Protection class	IP65 according to EN60529
Operating temperature	-20...+70 °C
Ambient humidity	Max. 85 % rh., short term condensation

TYPE

R4D.AHKF

EnOcean Wireless Window Handle

DIGICONTROL R4D.FG1-...

Data sheet number 60101

Batteryless window handle for status monitoring of windows (optionally lockable) with EnOcean technology. When actuated, the handle transmits a radio signal with the handle position to an actuator or centrel control unit in order, for example, to activate an energy lock. This can be used to optimize energy consumption in the building, since the heating or ventilation is deactivated when the windows are open.

TECHNICAL DATA

Frequency band	EnOcean, Standard frequenzy 868,3 MHz
power supply	Maintenance-free, electrodynamic energy generator
Sending/reception interval	When turning the window handle
Antenna	Internal sending antenna
Mounting	Square spindle, variable lengths (for tread depth 32...42 mm)
Power generation	Electrodynamic energy generator, maintenance-free
Operating temperature	-5...+40 °C
Ambient humidity	Max. 80 % rh. (non-condensing)

TYPE LIST

TYPE	HOUSING
R4D.FG1-AL-ST	Aluminium steel grey painted
R4D.FG1-AL-RW	Aluminium pure white painted
R4D.FG1-ES	Stainless steel

EnOcean Field Strength Measuring Device USB Transceiver and Software

DIGICONTROL R4D.FSM-USB

Data sheet number 60270

R4D.FSM-USB consists of an EasySens USB transceiver and a software, that converts your notebook or Windows tablet into a field strength measuring device. It helps integrators to measure frequency ranges and/or to find the right location for wireless EnOcean receivers. R4D.FSM-USB is designed to give a quick overview of received EnOcean telegrams and to read status, ID, field strength and manufacturer of integrated products. All EnOcean telegrams received will be shown in the tool/USB, which should be mounted in the location of the existing or intended EnOcean receiver's antenna. The optional 3 m USB extension cable is recommended for this purpose. R4D.FSM-USB is available for devices with operating system Microsoft® Windows XP or newer.

TYPE

R4D.FSM-USB

EnOcean Radio Switch (BJ), compatible with switch programmes of Busch-Jaeger

DIGICONTROL R4D.2L/2J/4L/4J-BJ-...

Data sheet number 60140

The EnOcean radio switch (BJ) is an universal radio switch insert with a maintenance-free, self powered radio transmitter. The central plate can be glued or screwed in place and can be easily mounted on glass and plaster. The integration is done by a special intermediate frame.

Compatible with the following Busch-Jaeger programs:

- SOLO
- FUTURE
- FUTURE Linear
- CARAT
- AXCENT

After being operated, the radio switch transmits its current position to the EnOcean communication interface ems4.ENO1B. A radio signal is generated each time the buttons are pressed or released. Dimmer and blind controls can be realized by evaluating the switching status of the receivers.

TECHNICAL DATA

Frequency band	EnOcean PTM 200, Standarf frequenzy 868,3 MHz
Mounting	Flat on Surface glue (with enclosed foil) or screw
Power generation	Electrodynamic energy generator, maintenance-free
Operating Travel/Operating Force:	Approx. 2 mm / 7 N; at room temperature
Total Installation Height	15 mm (frame lies directly against the wall)
Switching cycles	> 50000 operations according to EN 60669 / VDE 0632
Dimensions	■ Cutout 63 x 63 mm ■ Base plate 71 x 71 mm
Operating temperature	-25...+65 °C
Ambient humidity	Max. 85 % rh., non-condensing (for dry rooms only)

CONTINUED ON PAGE 111 ▸

◂ CONTINUED FROM PAGE 110

Standards/rules/guidelines/ approvals

- CE-Conformity:
  89/336/EEC Electromagnetic compatibility
  R and TTE 1999/5/EC Radio and
  Telecommunications Terminal Equipment Directive

  Standards:
  ETSI EN 301 489-1: 2001-09
  ETSI EN 301 489-3: 2001-11
  ETSI EN 61000-6-2: 2002-08
  ETSI EN 300 220-3: 2000-09

  The general approval for the radio operation is valid for all EU-countries as well as for Switzerland.

  FCCID: SZV-PTM200
  This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada.
  The operation is subject to the following conditions:
  (1) The device may not cause serious interferences and
  (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device.
  Attention: Changes or modifications of the device which have not been explicitly permitted lead to suspension of the FCC admission to operation.
- CE-Conformity:
  89/336/EEC Electromagnetic compatibility
  R and TTE 1999/5/EC Radio and
  Telecommunications Terminal Equipment Directive

  Standards:
  ETSI EN 301 489-1: 2001-09
  ETSI EN 301 489-3: 2001-11
  ETSI EN 61000-6-2: 2002-08
  ETSI EN 300 220-3: 2000-09

  The general approval for the radio operation is valid for all EU-countries as well as for Switzerland.

  FCCID: SZV-PTM200
  This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada.
  The operation is subject to the following conditions:
  (1) The device may not cause serious interferences and
  (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device.
  Attention: Changes or modifications of the device which have not been explicitly permitted by GFR lead to suspension of the FCC admission to operation.

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.2L-BJ-AN	Light (0/1)	Anthracite	2 channel (1 rocker with medial position)
R4D.2L-BJ-AS	Light (0/1)	Aluminium silver	2 channel (1 rocker with medial position)
R4D.2L-BJ-EW	Light (0/1)	Ivory white	2 channel (1 rocker with medial position)
R4D.2L-BJ-SW	Light (0/1)	Studio white	2 channel (1 rocker with medial position)

CONTINUED ON PAGE 112 ▸

◂ CONTINUED FROM PAGE 111

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.4L-BJ-AN	Light (0/1)	Anthracite	4 channel (2 rockers)
R4D.4L-BJ-AS	Light (0/1)	Aluminium silver	4 channel (2 rockers)
R4D.4L-BJ-EW	Light (0/1)	Ivory white	4 channel (2 rockers)
R4D.4L-BJ-SW	Light (0/1)	Studio white	4 channel (2 rockers)
R4D.2J-BJ-AN	Blind (>/<)	Anthracite	2 channel (1 rocker with medial position)
R4D.2J-BJ-AS	Blind (>/<)	Aluminium silver	2 channel (1 rocker with medial position)
R4D.2J-BJ-EW	Blind (>/<)	Ivory white	2 channel (1 rocker with medial position)
R4D.2J-BJ-SW	Blind (>/<)	Studio white	2 channel (1 rocker with medial position)
R4D.4J-BJ-AN	Blind (>/<)	Anthracite	4 channel (2 rockers)
R4D.4J-BJ-AS	Blind (>/<)	Aluminium silver	4 channel (2 rockers)
R4D.4J-BJ-EW	Blind (>/<)	Ivory white	4 channel (2 rockers)
R4D.4J-BJ-SW	Blind (>/<)	Studio white	4 channel (2 rockers)

EnOcean Radio Switch (55x55mm), compatible with switch programmes of several manufacturers

DIGICONTROL R4D.2L/2J/4L/4J-55-...

Data sheet number 60150

The EnOcean radio switch (55x55mm) is an universal and extremely flat radio switch insert with a maintenance-free, self powered radio transmitter. The universal switch insert can be integrated into numerous control programmes by different manufacturers. The central plate can be glued or screwed in place and and can be easily mounted on glass and plaster.

Compatible with the following switch programs *):

- BERKER: S1, B1, B3, B7 Glas
- GIRA: Standard55, E2, Event, Esprit
- JUNG: A500, Aplus
- MERTEN: M-Smart, M-Arc, M-Plan
- PEHA: Aura
- FELLER: Edizio Due
- SIEMENS: Delta
- ELSO: Fashion, Riva, Scala

*) partly equipped with an intermediate frame

After being operated, the radio switch transfers its current position to the EnOcean communication interface ems4.ENO1B. A radio signal is generated when pressing and releasing a button. Dimmer and blind controls can be realized by evaluating the switchting status of the receivers.

TECHNICAL DATA

Frequency band	EnOcean PTM 200, Standarf frequenzy 868,3 MHz
Mounting	Flat on Surface glue (with enclosed foil) or screw
Power generation	Electrodynamic energy generator, maintenance-free
Operating Travel/Operating Force:	Approx. 2 mm / 7 N; at room temperature
Total Installation Height	14 mm (frame lies directly against the wall)
Switching cycles	> 50000 operations according to EN 60669 / VDE 0632
Dimensions	■ Base plate 71 x 71 mm ■ Cutout 55 x 55 mm ■ Rocker 50 x 50 mm
Operating temperature	-25...+65 °C
Ambient humidity	Max. 85 % rh., non-condensing (for dry rooms only)

CONTINUED ON PAGE 114 ▸

◂ CONTINUED FROM PAGE 113

Standards/rules/guidelines/approvals

- CE-Conformity:
  89/336/EEC Electromagnetic compatibility
  R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive

  Standards:
  ETSI EN 301 489-1: 2001-09
  ETSI EN 301 489-3: 2001-11
  ETSI EN 61000-6-2: 2002-08
  ETSI EN 300 220-3: 2000-09

  The general approval for the radio operation is valid for all EU-countries as well as for Switzerland.

  FCCID: SZV-PTM200
  This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada.
  The operation is subject to the following conditions:
  (1) The device may not cause serious interferences and
  (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device.
  Attention: Changes or modifications of the device which have not been explicitly permitted lead to suspension of the FCC admission to operation.
- CE-Conformity:
  89/336/EEC Electromagnetic compatibility
  R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive

  Standards:
  ETSI EN 301 489-1: 2001-09
  ETSI EN 301 489-3: 2001-11
  ETSI EN 61000-6-2: 2002-08
  ETSI EN 300 220-3: 2000-09

  The general approval for the radio operation is valid for all EU-countries as well as for Switzerland.

  FCCID: SZV-PTM200
  This device complies with Part 15 of the FCC Rules and RSS210 of Industry Canada.
  The operation is subject to the following conditions:
  (1) The device may not cause serious interferences and
  (2) The device must be insusceptible against disturbances, especially ones which cause a malfunction of the device.
  Attention: Changes or modifications of the device which have not been explicitly permitted by GFR lead to suspension of the FCC admission to operation.

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.2L-55-AL	Light (0/1)	Aluminum	2 channel (1 rocker with medial position)
R4D.2L-55-AN	Light (0/1)	Anthracite	2 channel (1 rocker with medial position)
R4D.2L-55-RW	Light (0/1)	Pure white	2 channel (1 rocker with medial position)
R4D.2L-55-RWG	Light (0/1)	Pure white glossy	2 channel (1 rocker with medial position)

CONTINUED ON PAGE 115 ▸

◂ CONTINUED FROM PAGE 114

TYPE LIST

TYPE	LABELLING	COLOUR	ROCKER VARIANT
R4D.4L-55-AL	Light (0/1)	Aluminum	4 channel (2 rockers)
R4D.4L-55-AN	Light (0/1)	Anthracite	4 channel (2 rockers)
R4D.4L-55-RW	Light (0/1)	Pure white	4 channel (2 rockers)
R4D.4L-55-RWG	Light (0/1)	Pure white glossy	4 channel (2 rockers)
R4D.2J-55-AL	Blind (>/<)	Aluminum	2 channel (1 rocker with medial position)
R4D.2J-55-AN	Blind (>/<)	Anthracite	2 channel (1 rocker with medial position)
R4D.2J-55-RW	Blind (>/<)	Pure white	2 channel (1 rocker with medial position)
R4D.2J-55-RWG	Blind (>/<)	Pure white glossy	2 channel (1 rocker with medial position)
R4D.4J-55-AL	Blind (>/<)	Aluminum	4 channel (2 rockers)
R4D.4J-55-AN	Blind (>/<)	Anthracite	4 channel (2 rockers)
R4D.4J-55-RW	Blind (>/<)	Pure white	4 channel (2 rockers)
R4D.4J-55-RWG	Blind (>/<)	Pure white glossy	4 channel (2 rockers)

EnOcean Radio switch for access cards

DIGICONTROL R4D.KCS1

Data sheet number 60121

The R4D.KCS1 is a battery-free radio switch for room access cards. Occupancy-dependent control of lighting or air-conditioning in rooms. The radio technology allows free installation on glass or plaster by means of adhesive pads or screws.

TECHNICAL DATA

Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Sending/reception interval	If the state changes
Mounting	Flat on Surface glue (with enclosed foil) or screw
Power generation	Electrodynamic energy generator, maintenance-free
Housing	Material PC, colour pure white
Dimensions	80 x 80 x 20 mm
Protection class	IP20 according to EN60529
Operating temperature	0...+40 °C
Ambient humidity	Max. 85 % rh. (non-condensing)

TYPE

R4D.KCS1

EnOcean wireless radiator valve actuator for room temperature control

DIGICONTROL R4D.VSA1

Data sheet number 60241

Battery-free wireless valve actuator for single room control. The new electronic small valve actuator utilizes the temperature difference between the warm radiator and the cooler room to gain electrical energy by means of a thermoelectric generator.

TECHNICAL DATA

Measuring range	Temperature: 0...+40 °C
Frequency band	EnOcean, Standard frequenzy 868,3 MHz
Sending/reception interval	Every 2...20 min., configured (in 1 min. steps)
Accuracy	Temperatur +/- 0.5 °C (typ. at 25 °C)
Antenna	Internal sending and receiving antenna
Data transmission	Bidirectional
Function	Radio interface, heating-actuator operation, self-control mode, automatic closing point control, frost protection function
Mounting	Screw mounting, M30 x 1.5
Display	Status-LED, red
LED display	Status LED, red
Power generation	maintenance-free, thermal Energy Harvesting
Housing	PC, pure white, aluminium
Protection class	IP40 according to EN60529
Operating temperature	0...+50 °C
Ambient humidity	Max. 85 % rh. (non-condensing)
Other remarks	With integrated, digital temperature transmitter > 3.8 mm nominal stroke 0.24 mm / s max. speed 100 N min. force

TYPE

R4D.VSA1

EnOcean Radio Receiver with 1 or 2 analogue outputs

DIGICONTROL R4D.AO-...

Data sheet number 60180

The EnOcean radio receiver R4D.AO-... has one or two analogue 0...10 V outputs. The height of the output values depends on the data transmitted from the EnOcean sensors.
The R4D.AO-... works as dimmer. The relevant control signal can either come directly from the radio switches of series R4D.2L/2J/4L/4J.. or from the EnOcean communication interface ems4.ENO1B.

TECHNICAL DATA

Voltage	15...24 V DC (+/- 10 %) or 24 V AC (+/- 10 %)
Power consumption	Typical 1 W / 1.5 VA
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Electrical connection	Screw terminals max. 1.5 mm²
Antenna	Internal receiving antenna
Housing	Material ABS, colour red
Dimensions	70 x 48 x 35 mm
Protection class	IP20 according to EN60529
Storage temperature	-20...+70 °C
Ambient humidity	0...75 % rh., non-condensing
Standards/rules/guidelines/ approvals	CE-Conformity: 2004/108/EC Electromagnetic compatibility R and TTE 1999/5/EC Radio and Telecommunications Terminal Equipment Directive Product safety: 2001/95/EC Product safety EMC: EN 61000-6-2:2005 EN 61000-6-3:2007 ETSI EN 301 489-3:2001 EN 61000-3-2:2006 EN 61000-3-3:1995+A1+A2 Product safety: EN 60730-1:2002 The general registration for the radio operation is valid for all EU countries as well as for Switzerland.

TYPE LIST

TYPE	OUTPUTS
R4D.AO-1	1x 0...10 V / max. 20 mA
R4D.AO-2	2x 0...10 V / max. 20 mA

EnOcean radio switch receiver lighting 230V for radio pushbutton

DIGICONTROL R4D.DO-B

Data sheet number 60200

The EnOcean radio actuator R4D.DO-B is equipped with a digital output for the control of light bulbs, HV halogen lamps, electronic ballasts and inductive loads.
The respective control signal can either come directly from the radio switches of series R4D.2L/2J/4L/4J or the EnOcean communication interface ems4. ENO1B.

TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Power line protection	Circuit breaker rated for 16 A, maximum
Load types	Incandescent lamps: 2500 W HV-halogen lamps: 1200 W Inductive: 600 VA Electronic ballast: 3 units
Dimensions	70 x 48 x 35 mm
Protection class	IP20 according to EN60529
Storage temperature	-40...+85 °C
Operating temperature	-20...+40 °C
Standards/rules/guidelines/ approvals	CE-Conformity: R and TTE Directive 1999/5/EC Test specifications: EN 60669-2-1 Identification: CE; KEMA/KEUR
Operating temperature	-20 ... +40 °C

TYPE

R4D.DO-B

EnOcean radio - switch receiver blind 230V for radio pushbutton

DIGICONTROL R4D.DO-J

Data sheet number 60210

The EnOcean radio receiver R4D.DO-J is equipped with two digital outputs for the control of blinds, roller shutters or other 3-point actuators.
The respective control signal can either come directly from the radio switches of series R4D.2L/2J/4L/4J or from the EnOcean communication interface ems4.ENO1B.

TECHNICAL DATA

Voltage	230 V AC 50/60 Hz
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Power line protection	Circuit breaker or fuse for 10 A, maximum
Dimensions	70 x 48 x 35 mm
Protection class	IP20 according to EN60529
Storage temperature	-40...+85 °C
Operating temperature	-20...+40 °C
Standards/rules/guidelines/ approvals	Test specifications: EN 60669-2-1 Identification: CE

TYPE

R4D.DO-J

EnOcean Radio Repeater

DIGICONTROL R4D.REP-3

Data sheet number 60130

The repeater serves for signal amplification between EnOcean sensors and receivers. It is typically used if the sensor is placed outside the reception range or if there are range problems between sender and receiver for existing installations (due to e.g. the building of walls, moving of furniture/ cupboards). Level 1, level 2 and Smart Repeating can be set. An external transmitting/receiving antenna 2.5m with magnetic base is included in the scope of delivery.

TECHNICAL DATA

Voltage	flex. 15...240 V
Power consumption	typ. 1 VA (15...240 V)
Frequency band	EnOcean, Standard frequenzy 868.3 MHz
Electrical connection	Screw terminals max. 1.5 mm²
Antenna	External sending and receiving antenna
Data transmission	Bidirectional
Function	Level-1, Level-2, Smart-mode, rule-based, max. 10 rules
Weight	110 g
Housing	Material PA6, colour white
Dimensions	58 x 78 x 45.5 mm
Protection class	IP65 according to EN60529
Operating temperature	-20...+60 °C
Ambient humidity	Max. 70 % rh. (non-condensing)

TYPE

R4D.REP-3