Multifunction sensor with 8 binary/analogue inputs for DIN rail

ZIO-RQUAD8

Technical Documentation

FEATURES

- 8 analog/digital inputs configurable as:
    - Temperature probe (NTC with customizable curve).
    - Motion sensor.
    - Binary input.
- 8 thermostats
- Total data saving on KNX bus failure.
- Dimensions 67 x 90 x 35mm (2 DIN units).
- Integrated KNX BCU.
- DIN rail assembly (EN 50022), through pressure.
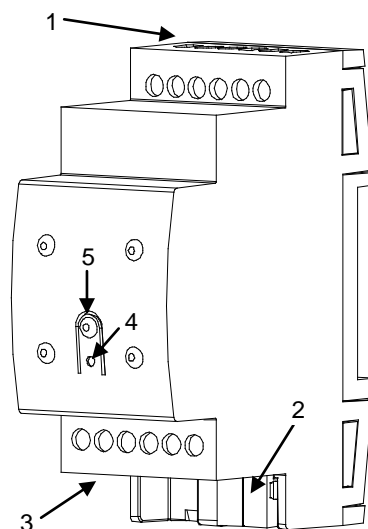- Conformity with the CE directives (CE-mark on the right side).

Figure 1. RailQUAD 8

1. Analog/Digital inputs 1 to 4	**2**. KNX connector	**3**. Analog/Digital inputs 5 to 8
4. Programming LED		**5**. Programming button.

Programming button: short button press to set programming mode. If this button is held while plugging the device into the KNX bus, it enters into safe mode.

Programming LED: programming mode indicator (red). When the device enters into safe mode, it blinks (red) every half second. During the start-up (reset or after KNX bus failure) and if the device is not in safe mode, it emits a red flash.

GENERAL SPECIFICATIONS

| CONCEPT			DESCRIPTION		
Type of device			Electric operation control device		
KNX supply	Voltage (typical)		29VDC SELV		
	Voltage range		21…31VDC		
	Maximum consumption	Voltage	mA		mW
		29VDC (typical)	6.9		200.1
		24VDC[1]	10		240
	Connection type		Typical TP1 bus connector, 0.80 mm² section		
External power supply			No		
Operation temperature			0ºC to +55ºC		
Storage temperature			-20ºC to +55ºC		
Operation humidity			5 to 95% RH (no condensation)		
Storage humidity			5 to 95% RH (no condensation)		
Complementary characteristics			Class B		
Protection class			III		
Operation type			Continuous operation		
Device action type			Type 1		
Electrical stress period			Long		
Degree of protection			IP20, clean environment		
Installation			Independent device to be mounted inside electrical panels with DIN rail (EN 50022).		
Minimum clearances			Not required		
Response on KNX bus failure			Data saving according to parameterization.		
Response on KNX bus restart			Data recovery according to parameterization.		
Operation indication			Programming LED indicates programming mode (red).		
Weight			58g		
PCB CTI index			175V		
Housing material			PC FR V0 halogen free		

[1] Maximum consumption in the worst case scenario (KNX Fan-In model)

INPUTS SPECIFICATIONS AND CONNECTIONS	
CONCEPT	DESCRIPTION
Number of inputs	8
Number of inputs per common	2
Operation voltage	+3.3VDC in the common
Operation current	1.0mA @ 3.3VDC (per input)
Input impedance	Aprox. 3.3kΩ
Switching type	Dry voltage contacts between input and common
Connection method	Screw terminal block
Max. cable length	30m
NTC probe length	1.5m (up to 30m)
NTC accuracy (@ 25ºC) [2]	±0.5ºC
Temperature measure precision	0.1ºC
Cable cross-section	0.5 mm² to 2.5 mm² (26-12 AWG)
Maximum response time	10ms

[2] For Zennio temperature probes.

Any combination of the next **accessories** is allowed in the inputs:

Temperature Probe[3]
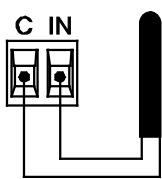
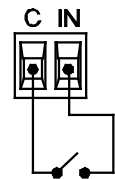Zennio temperature probe.

Motion Sensor
C IN

Up to two motion sensors can be plugged into the same device input (parallel wiring)

Motion sensor screw terminal.
Motion sensor references:
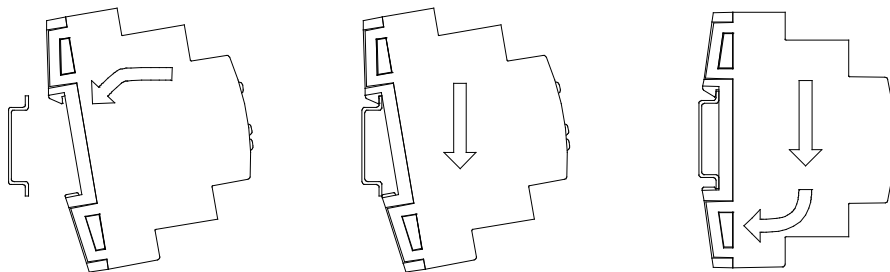ZN1IO-DETEC-P[4]
ZN1IO-DETEC-X

Switch/Sensor/ Push button
C IN

[3] The temperature probe can be a Zennio one or a NTC with known resistances for three points in the range [-55, 150ºC].
[4] The micro switch number 2 in the ZN1IO-DETEC-P **must be in Type B position** to work properly.

Attaching RailQUAD 8 to DIN rail:
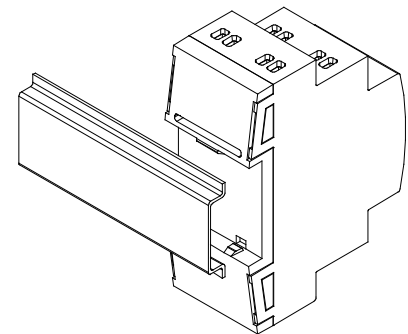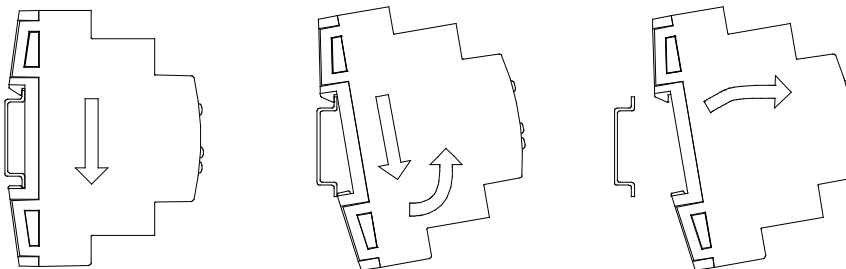

Removing RailQUAD 8 from DIN rail:

Figure 2. Mounting RailQUAD 8 on DIN rail

⚠ SAFETY INSTRUCTIONS

- Installation should only be performed by qualified professionals according to the laws and regulations applicable in each country.
- Do not connect the mains voltage nor any other external voltage to any point of the KNX bus; it would represent a risk for the entire KNX system. The facility must have enough insulation between the mains (or auxiliary) voltage and the KNX bus or the wires of other accessories, in case of being installed.
- Once the device is installed (in the panel or box), it must not be accessible from outside.
- Keep the device away from water and do not cover it with clothes, paper or any other material while in use.
- The WEEE logo means that this device contains electronic parts and it must be properly disposed of by following the instructions at http://zennio.com/weee-regulation.