

## Main

Commercial Status	Commercialised
Range of product	Zelio Logic
Product or component type	Analogue I/O extension module

## Complementary

Analogue input number	2
Analogue input type	Common mode
Analogue input range	0...10 V 0...20 mA -25...125 °C
Temperature probe type	Pt 100, 3-wire conforming to IEC 751
Maximum permissible voltage	30 V for analogue input circuit
[Imp] maximum permanent current	30 mA for analogue input circuit
Analogue input resolution	10 bits on the input range
Input impedance	247 Ohm, input range: 0...20 mA for analogue input circuit 18 kOhm, input range: 0...10 V for analogue input circuit
Analogue output number	2
Analogue output range	0...10 V
Analogue output resolution	10 bits on the output range
Load type	Resistive load for analogue output
Maximum load current	10 mA for analogue output
Short-circuit protection	With analogue output
LSB value	9.8 mV, 0...10 V for analogue output 9.8 mV, 0...10 V for analogue input circuit 20 µA, 0...20 mA for analogue input circuit 0.15 °C, - 25...125 °C for analogue input circuit
Conversion time	Smart relay cycle time for analogue output Smart relay cycle time for analogue input circuit
Conversion error	+/- 1.5 °C, input range: - 25...125 °C (55 °C) for analogue input circuit +/- 1.5 °C, input range: - 25...125 °C (25 °C) for analogue input circuit +/- 1 %, input range: 0...20 mA (55 °C) for analogue input circuit +/- 1 %, input range: 0...20 mA (25 °C) for analogue input circuit +/- 1 %, input range: 0...10 V (55 °C) for analogue input circuit +/- 1 %, input range: 0...10 V (25 °C) for analogue input circuit +/- 1 % of the full scale value, input range: 0...10 V (55 °C) for analogue output +/- 1 % of the full scale value, input range: 0...10 V (25 °C) for analogue output
Repeat accuracy	<= +/- 1 %, input range: 0...20 mA at 25 °C for analogue input circuit <= +/- 1 %, input range: 0...10 V at 55 °C for analogue output <= +/- 1 %, input range: 0...10 V at 25 °C for analogue input circuit < +/- 0.3 °C, input range: - 25...125 °C at 25 °C for analogue input circuit
Operating distance	10 m with screened cable for analogue output 10 m with screened cable for analogue input circuit
Reverse polarity protection	With analogue input circuit

Connections - terminals	Screw terminals, 2 x 0.25...2 x 0.75 mm <sup>2</sup> , 24...18, flexible cable with cable end Screw terminals, 1 x 0.25...1 x 2.5 mm <sup>2</sup> , 24...14, flexible cable with cable end Screw terminals, 2 x 0.25...2 x 1.5 mm <sup>2</sup> , 23...16, solid cable Screw terminals, 1 x 0.25...1 x 2.5 mm <sup>2</sup> , 24...14, solid cable Screw terminals, 1 x 0.25...1 x 2.5 mm <sup>2</sup> , 24...14, semi-solid cable
Tightening torque	0.5 N.m
Product weight	0.11 kg

## Environment

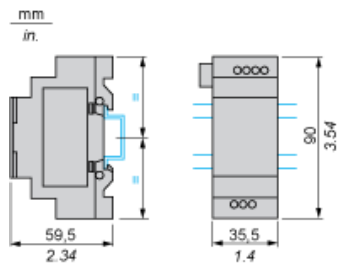
Product certifications	CSA C-Tick GOST UL
Standards	EN/IEC 60068-2-27 Ea EN/IEC 60068-2-6 Fc EN/IEC 61000-4-11 EN/IEC 61000-4-12 EN/IEC 61000-4-2 level 3 EN/IEC 61000-4-3 EN/IEC 61000-4-4 level 3 EN/IEC 61000-4-5 EN/IEC 61000-4-6 level 3
IP degree of protection	IP40 (front panel) conforming to IEC 60529 IP20 (terminal block) conforming to IEC 60529
Environmental characteristic	Low voltage directive conforming to EN/IEC 61131-2 EMC directive conforming to EN/IEC 61131-2 zone B EMC directive conforming to EN/IEC 61000-6-4 EMC directive conforming to EN/IEC 61000-6-3 EMC directive conforming to EN/IEC 61000-6-2
Disturbance radiated/conducted	Class B conforming to EN 55022-11 group 1
Pollution degree	2 conforming to EN/IEC 61131-2
Ambient air temperature for operation	-20...55 °C conforming to IEC 60068-2-1 and IEC 60068-2-2 -20...40 °C conforming to IEC 60068-2-1 and IEC 60068-2-2
Ambient air temperature for storage	-40...70 °C
Operating altitude	2000 m
Altitude transport	<= 3048 m
Relative humidity	95 % without condensation or dripping water

## Contractual warranty

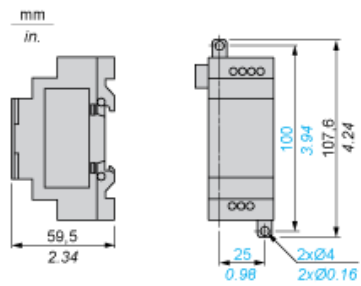
Period	18 months
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Analog I/O Extension Modules

Mounting on 35 mm/1.38 in. DIN Rail



Screw Fixing (Retractable Lugs)

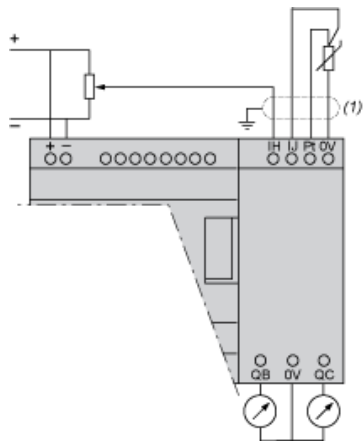


Connection of Smart Relays on DC Supply, with Analog I/O Extension Module

Connection Alternatives

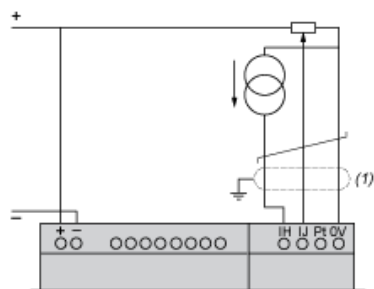
0 - 10 V	0 - 20 mA	Pt100
2	0	0
1	1	0
0	2	0
1	0	1
0	1	1

Application Example with 1 x 0 - 10 V Input and 1 x Pt100 Input



(1) Screened cables, maximum length 10 m/32.80 ft.

Application Example with 1 x 0 - 20 mA Input and 1 x 0 - 10 V Input



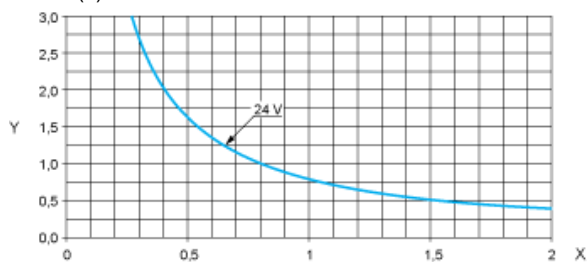
(1) Screened cables, maximum length 10 m/32.80 ft.

Compact and Modular Smart Relays

Electrical Durability of Relay Outputs

(in millions of operating cycles, conforming to IEC/EN 60947-5-1)

DC-12 (1)

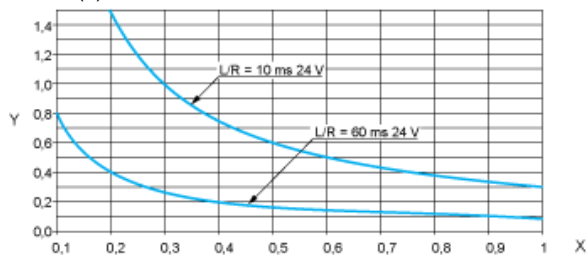


X: Current (A)

Y: Millions of operating cycles

(1) DC-12: control of resistive loads and of solid state loads isolated by opto-coupler,  $L/R \leq 1$  ms.

DC-13 (1)



X: Current (A)

Y: Millions of operating cycles

(1) DC-13: switching electromagnets,  $L/R \leq 2 \times (U_e \times I_e)$  in ms,  $U_e$ : rated operational voltage,  $I_e$ : rated operational current (with a protection diode on the load, DC-12 curves must be used with a coefficient of 0.9 applied to the number in millions of operating cycles).