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PX24/R, PXN/R

ISOLATED TRANSDUCER OF DC CURRENT OR VOLTAGE

FOR RAILWAY APPLICATIONS

- PX24/R **4-20mA loop-powered**
- PXN/R **auxiliary power supply**

- measures and separates input DC current or voltage
- allows bipolar input and output signal
- rated impuls voltage 8kV
- input, output and supply circuits are isolated (5kV$_{RMS}$ tested)
- designed for DIN 35 rail mounting
- conversion accuracy < 0.1%
- time constant typ.1ms, for order up to 300ms

The module has been designed to convert DC current (±50uA…±10A) or voltage (±10mV…±1500V) from shunt resistors and sensors into a series of unified ranges (0..10V, 0..20mA, 4..20mA, 0..± 20mA, 0..±10V). The converter output-to-input response is linear. The converter is particularly well-suited for heavy electromagnetic interference environment operation and features input-to-output isolation.

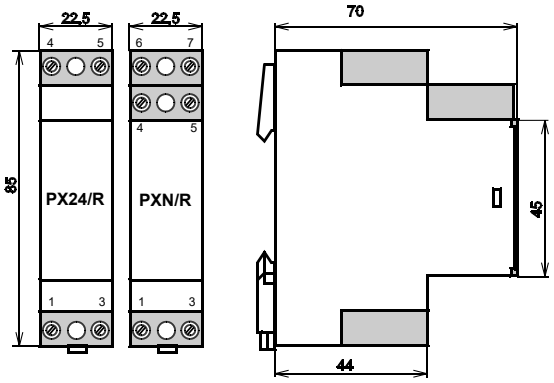
Electrical specifications:

- operating temperature range:		OT4 (-40...+ 70°C)
- storage temperature::		-40...+ 80°C
- supply voltage:	PX24/R:	24V DC (12..30V DC)
	PXN/R:	16-300VDC 90-250VAC
	for order:	20 – 60VAC
- supply without interruption:		class S1 art. 5.2.4
- consumption:		max. 1,5VA
- input signal:	voltage	from ±10mV to ±1500V
	current	from ±50uA to ±10A
- output signal:	PX24/R:	4..20mA Loop-powered
	PXN/R:	0..20mA, 4..20mA, 0..10V
		0..±20mA, 0..±10V
- output voltage amplitude:		min. 15V
- voltage output load:		max. 10mA
- input resistance of voltage input:		typ. 100kohm / V
- voltage drop of current input:		< 0,54V
- output current limit:		typ. 30mA (electronic fuse)
- measurement error:		< 0,1%
- linearity error:		< 0,1%
- temperature induced error:		< 50ppm /°C
- time constant:		1ms , for order up to 300ms
- enclosure (casing / terminal board):		IP40 / IP20
- weight:		90g
- working environment:		pollution level PD1,PD2

- max.working voltage across isolation	isolation level:	
overvoltage category instalation	basic	reinforced
OVI	up 1000V$_{RMS}$	up 1000V$_{RMS}$
OVII	up 1000V$_{RMS}$	up 600V$_{RMS}$
OVIII	up 1000V$_{RMS}$	up 300V$_{RMS}$

-clearances and creepage distances	
input / output + supply:	min. 8mm
output / supply:	min. 6,5mm
-insulation test voltage Ua:	
input / output + supply:	5kV$_{RMS}$
output / supply:	4kV$_{RMS}$
-rated impuls voltage U$_{NI}$:	8kV

Converter dimensions:



Terminal designation:
1,3…input signal (3 is +)
4,5…output signal (5 is +)
6,7…auxiliary power supply without polarity

Type tests:

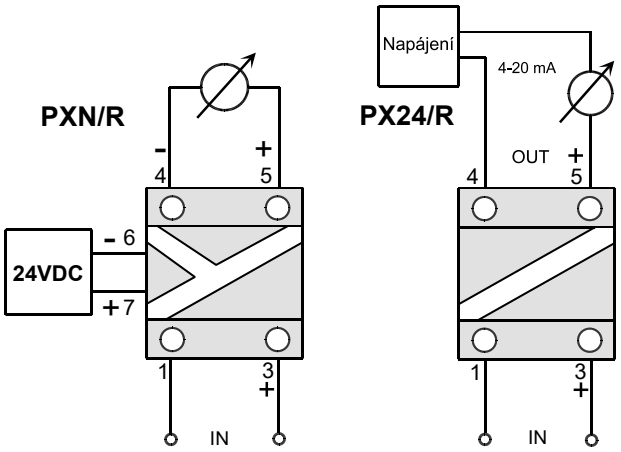
ČSN EN 60688 ed.2	Electrical measuring transducers for converting A.C. and D.C. electrical quantities to analogue or digital signals
ČSN EN 61326-1 ed.3	Electrical equipment for measurement, control and laboratory use - EMC requirements - Part 1: General requirements
ČSN EN 61010-1 ed.2	Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements
ČSN EN 50155 ed.5	Railway applications - Electronic equipment used on rolling stock
ČSN EN 50124-1 ed.2	Railway applications - Insulation coordination - Part 1: Basic requirements - Clearances and creepage distances for all electrical and electronic equipment
ČSN EN 61373 ed.2	Railway applications - Rolling stock equipment - Shock and vibration tests
ČSN EN 45545-2+A1	Railway applications - Fire protection on railway vehicles - meets the set of requirements for monitored products according to Table 2 - PCB complies with a set of requirements R24, R25 - the box meets the set of requirements R26 - meets the requirements of HL1, HL2, HL3

Connections:

The terminals accept wires with 2,5mm^2. We recommend using a cable with a minimal cross 0,5mm^2. In the interfering environments use shielded or twisted cable.

Ordering instructions:
Your order should include:
- module type
- quantity
- input and output signal
- time response (if it is different from 1ms)

Application variants:



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