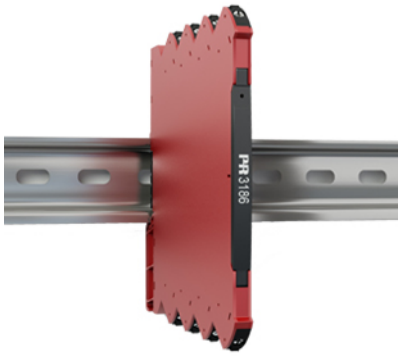
PERFORMANCE MADE SMARTER



2-wire transmitter isolator / current isolator

3186

– 1 or 2 channel 2-wire transmitter isolator / current isolator
– 1:1 conversion in the range 3.5...23 mA
– Low channel voltage drop and fast response time < 5 ms
– Excellent accuracy, better than 0.05%
– Slimline 6.1 mm housing

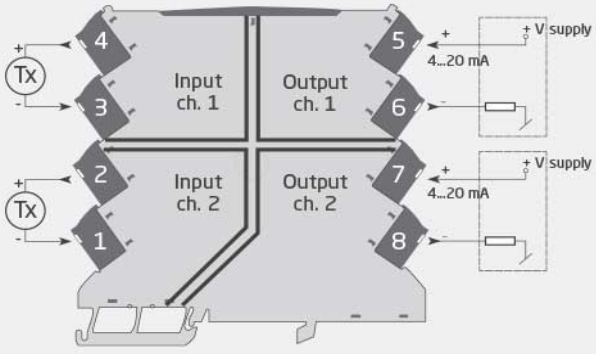
Application
- 3186A is a 1:1 output loop-powered 2-wire transmitter isolator that excites and measures passive input signals.
- 3186B is a 1:1 output loop-powered 2-wire current isolator that measures active input signals.
- A very competitive choice in terms of both price and technology for galvanic isolation.
- Provides surge suppression and protects control systems from transients and noise.
- 3186 eliminates ground loops and can be used for measuring floating signals.
- The device can be mounted in Safe area or in Zone 2 and Cl. 1 Div 2. area.

Technical characteristics
- 3186 is powered by the host loop voltage.
- Wide supply range from 6...35 V.
- Low input to output voltage drop typ. 2.5 V (3186A).
- Low input drop ≤ 3 V (3186B), even when no loop power is applied to the output terminals.
- Excellent conversion accuracy, better than 0.05% in the range 3.8…20.5 mA.
- Signal range is 3.5...23 mA which means that 3186 is NAMUR NE43 compliant.
- Inputs and outputs are floating and galvanically separated.
- High galvanic isolation of 2.5 kVAC.
- Fast response time < 5 ms.
- Excellent signal/noise ratio > 60 dB.

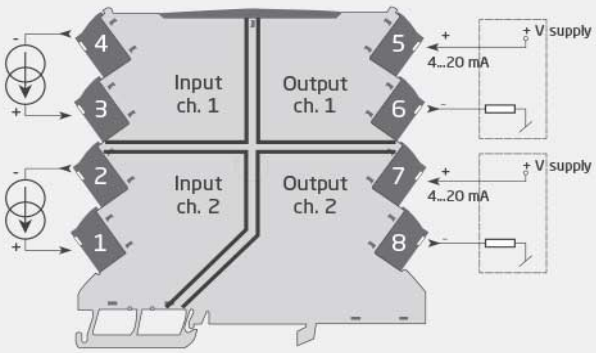
Mounting / installation
- DIN rail mounting with up to 330 channels per meter.
- Extended operating temperature range from -25...+70°C.

Applications

3186A



3186B



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Order

Type	Version		Unit channels	
3186	2-wire transmitter isolator	: A	Single	: 1
	2-wire current isolator	: B	Double	: 2

Environmental Conditions

Operating temperature ..... -25°C to +70°C
Storage temperature ..... -40°C to +85°C
Calibration temperature ..... 20...28°C
Relative humidity ..... < 95% RH (non-cond.)
Protection degree IP20
Installation in ..... Pollution degree 2 & meas. / overvoltage cat. II

Mechanical specifications

Dimensions (HxWxD) ..... 113 x 6.1 x 115 mm
Weight approx ..... 70 g
DIN rail type ..... DIN EN 60715/35 mm
Wire size ..... 0.13...2.5 mm^2 / AWG 26...12 stranded wire
Screw terminal torque ..... 0.5 Nm
Vibration ..... IEC 60068-2-6
2...25 Hz ..... ±1.6 mm
25...100 Hz ..... ±4 g

Common specifications

Supply

Supply voltage ..... 6...35 VDC
Power dissipation, per channel ..... 50 mW (3186A)
Power dissipation, per channel ..... Vterminal x I (3186B)

Isolation voltage

Isolation voltage, test / working ..... 2.5 kVAC / 300 VAC (reinforced)
Zone 2 / Div. 2 ..... 250 VAC

Response time

Response time (0...90%, 100...10%) ..... < 5 ms
Signal / noise ratio ..... > 60 dB
Signal dynamics, input ..... Analog signal chain
Signal dynamics, output ..... Analog signal chain
Accuracy ..... Better than 0.05%
Cut-off frequency (3 dB) ..... 100 Hz
EMC immunity influence ..... < ±0.5% of span
Extended EMC immunity: NAMUR NE21, A criterion, burst ..... < ±1% of span

Input specifications

Current input

Measurement range ..... 3.5...23 mA
Input to output voltage drop, typ ..... 2.5 V (3186A)
Input voltage drop typ.: Supplied and non-supplied unit ..... ≤ 3 V (3186B)
2-wire transmitter supply ..... 3.5...32.5 V
Signal conversion 1:1

Output specifications

Current output

Signal range ..... 3.5...23 mA
Signal range, input to output ..... 3.8...20.5 mA
Output loop current limitation, typ ..... 24 mA
Current output overload, max ..... 50 mA

I.S. / Ex marking

ATEX ..... II 3 G Ex ec IIC T4 Gc
IECEx ..... Ex ec IIC T4 Gc
FM, US ..... Cl. I, Div. 2, Gp. A, B, C, D T4 or Cl. I, Zone 2, AEx nA IIC T4
FM, CA ..... Cl. I, Div. 2, Gp. A, B, C, D T4 or Cl. I, Zone 2, Ex nA IIC T4
EAC Ex ..... 2Ex nA IIC T4 Gc X

Observed authority requirements

EMC ..... 2014/30/EU & UK SI 2016/1091
LVD ..... 2014/35/EU & UK SI 2016/1101
ATEX ..... 2014/34/EU & UK SI 2016/1107
RoHS ..... 2011/65/EU & UK SI 2012/3032
EAC ..... TR-CU 020/2011
EAC Ex ..... TR-CU 012/2011

Approvals

ATEX ..... KEMA 10ATEX0147 X
IECEx ..... KEM 10.0068X
UKEX ..... DEKRA 21UKEX0055X
c FM us ..... FM17US0004X / FM17CA0003X
c UL us, UL 61010-1 ..... E314307
CCC 2020322310003554
EAC Ex ..... RU C-DK.HA65.B.00355/19
DNV Marine TAA00001RW