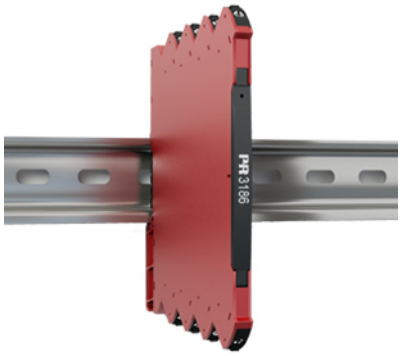
PERFORMANCE MADE SMARTER



2-wire transmitter isolator / current isolator

3186

– 1 or 2 channel 2-wire transmitter isolator / current isolator
– Isolation and 1:1 conversion of standard current signals
– Excellent accuracy, better than 0.05% of span
– Low voltage drop and fast response time < 5 ms
– Slimline 6.1 mm housing

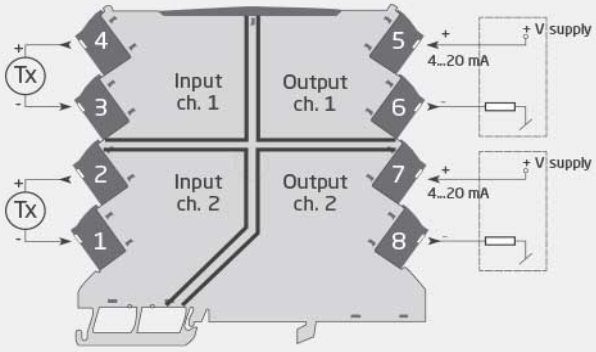
Functional highlights
- 3186A is a 1:1 output loop-powered 2-wire transmitter isolator that excites and measures passive input signals.
- 3186B is a 1:1 output loop-powered 2-wire current isolator that measures active input signals.
- High 4-port isolation provides surge suppression that protects the control system from transients and noise and eliminates ground loops.
- The device can be mounted in Safe area or in Zone 2 / Division 2 areas and is approved for marine applications.

Technical highlights
- The device is powered by the host loop voltage.
- Excellent conversion accuracy, better than 0.05% in the range 3.8…20.5 mA.
- Fast response time < 5 ms.
- 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.
- NAMUR NE21, NE43.
- Excellent signal/noise ratio > 60 dB.
- High galvanic isolation of 2.5 kVAC.
- Inputs and outputs are floating and galvanically separated.
- Wide ambient temperature range: -25...+70°C.

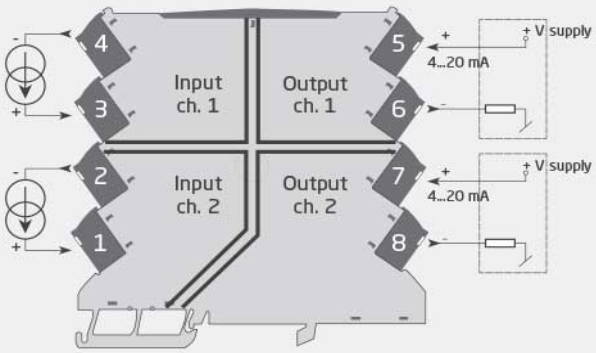
Mounting / installation
- The narrow 6.1 mm housing allows up to 163 units per meter.
- DIN rail mounting with up to 326 channels per meter.
- Units can be mounted side by side, horizontally and vertically, without air gap on a standard DIN rail, even at 70°C ambient temperature.

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 (1)
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
2-wire transmitter supply	3.5...32.5 V
Input to output voltage drop, typ.	2.5 V (3186A)
Input voltage drop typ.: Supplied and non-supplied unit	≤ 3 V (3186B)
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	EAEU KZ 7500361.01.01.08756
DNV Marine	TAA00001RW