

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.

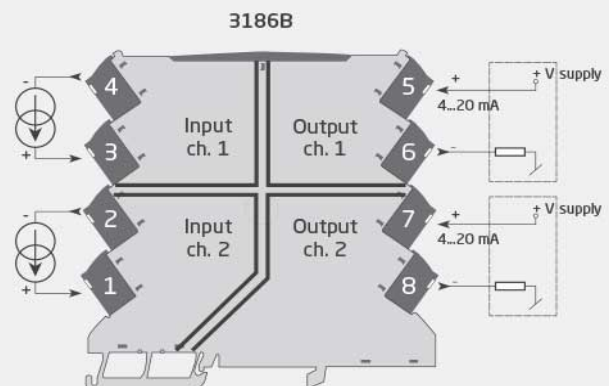
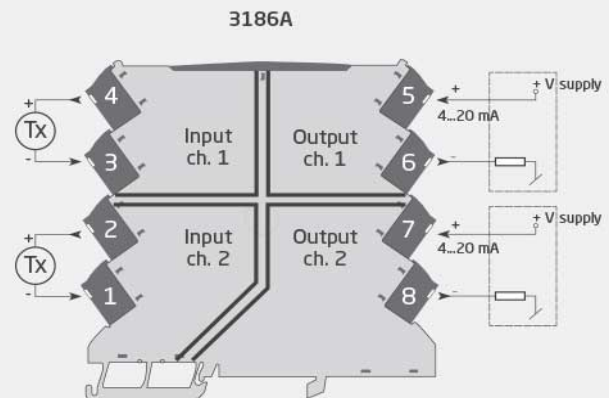
Technical characteristics

- 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



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.....	EAEU KZ 7500361.01.01.08756
DNV Marine.....	TAA00001RW