

Loop powered isolator

3185

- 1 or 2 channel input loop powered isolator
- Signal 1:1 functional range 0...23 mA
- Low input voltage drop and fast response time
- Excellent accuracy and high load stability
- Slimline 6 mm housing



Application

- 1:1 input loop powered isolator of current signals in the range 0(4)...20 mA.
- 3185 is an easy mounting DIN rail unit.
- A very competitive choice in terms of both price and technology for galvanic isolation of current signals.
- Provides surge suppression and protects control systems from transients and noise.
- 3185 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.

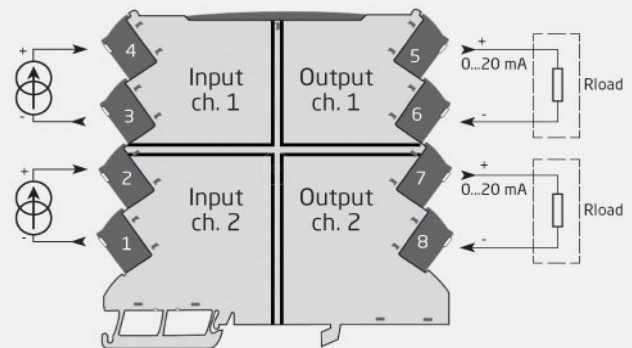
Technical characteristics

- 3185 is powered by the analog input current signal loop.
- Low input voltage drop, typ 1.35 V + Vout.
- Excellent conversion accuracy, better than 0.1% in the range 0...20.5 mA.
- Functional range is 0...23 mA which means that 3185 is NAMUR NE43 compliant.
- Inputs and outputs are floating and galvanically separated.
- The output is voltage limited to 17.5 VDC.
- High galvanic isolation of 2.5 kVAC.
- Fast response time < 5 ms.
- Excellent signal/noise ratio > 60 dB.

Mounting / installation / programming

- DIN rail mounting with up to 330 channels per meter.
- Temperature operation range is from -25...+70°C.

Connections



Safe Area or
Zone 2 & Cl. 1, Div. 2, gr. A-D

Order:

Type	Unit channels
3185A1	1
3185A2	2

Environmental Conditions

Specifications range.....	-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 & measurement / 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 x 2.5 mm ² / AWG 26...12 stranded wire
Screw terminal torque.....	0.5 Nm
Vibration.....	IEC 60068-2-6 : 2007
Vibration: 2...25 Hz.....	±1.6 mm
Vibration: 25...100 Hz.....	±4 g

Common specifications**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

Internal consumption, per channel.....	30 mW
Signal / noise ratio.....	> 60 dB
Accuracy.....	Better than 0.1%
Cut-off frequency (3 dB).....	100 Hz
EMC immunity influence.....	< ±0.5% of span
Extended EMC immunity: NAMUR NE 21, A criterion, burst.....	< ±1% of span

Input specifications**Current input**

Measurement range.....	0...23 mA
Input voltage drop.....	(Unit voltage drop) + Vout.
Signal conversion.....	1:1
Start up current, typ.....	10 uA
Current input overload, max.....	50 mA
Input to output voltage drop, typ.....	1.25 V + (0.015 x Vout.)

Output specifications**Current output**

Signal range.....	0...23 mA
Load (@ current output).....	≤ 600 Ω
Load stability.....	< 0.01% of span / 100 Ω
Voltage limit.....	17.5 V
*of span.....	= 0...20 mA

Observed authority requirements

EMC.....	2014/30/EU
LVD.....	2014/35/EU
RoHS.....	2011/65/EU

Approvals

ATEX 2014/34/EU.....	KEMA 10ATEX0147 X, II 3 G Ex nA IIC T4 Gc
IECEx.....	KEM 10.0068X
FM.....	3041043-C
EAC.....	TR-CU 020/2011
CCOE.....	P337347/1
DNV Marine.....	Stand. f. Certific. No. 2.4
GL.....	V1-7-2
UL.....	UL 61010-1