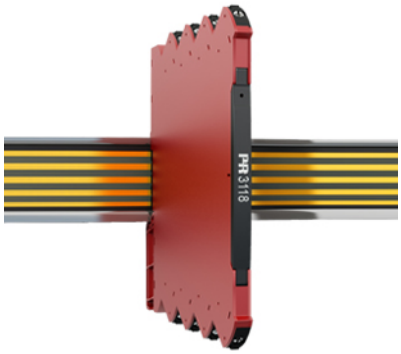
PERFORMANCE MADE SMARTER



Bipolar isolated converter / splitter

3118

- Conversion of voltage and current bipolar process signals to uni-/bipolar signals
- Output: Current and voltage
- Excellent accuracy, better than 0.05% of span
- Splitter function: 1 bipolar signal in and 2 unipolar signals out
- Multiple signal ranges are selectable via DIP switches

Functional highlights

- Isolating converter and splitter which can be used for signal conversion of standard bipolar analog process signals into two individual unipolar analog signals.
- High 4-port isolation provides surge suppression that protects the control system from transients and noise and eliminates ground loops.
- The analog output can be easily configured and programmed to be bipolar in the ranges ±10 mA and ±20 mA.
- All terminals are over-voltage protected, polarity protected and short-circuit protected.
- The device can be mounted in Safe area or in Zone 2 / Division 2 areas and is approved for marine applications.

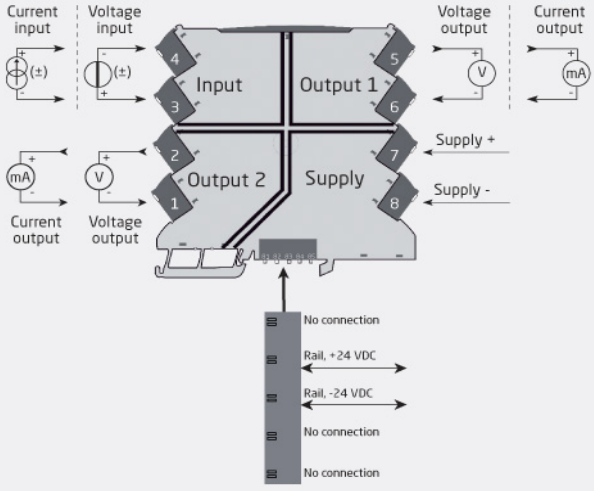
Programming

- Flexible 24 VDC (±30%) supply via power rail or connectors.
- Excellent conversion accuracy in all available ranges, better than 0.05% of span.
- Fast response time < 7 ms / > 100 Hz bandwidth — 10 Hz bandwidth damping possible via DIP switch.
- Meeting the NAMUR NE21 recommendations, this device ensures top measurement performance in harsh EMC environments.
- Excellent signal/noise ratio > 60 dB.
- High galvanic isolation of 2.5 kVAC.
- Inputs and outputs are floating and galvanically separated.
- A green front LED indicates normal operation and malfunction.
- Wide ambient temperature range: -25...+70°C.

Mounting / installation

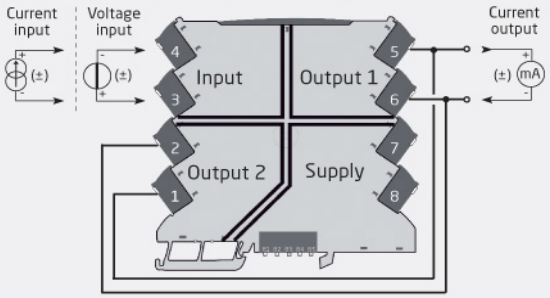
- Fast and easy configuration of factory-calibrated measurement ranges via DIP switches.

Applications



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

(*) Bipolar Input to bipolar output wiring set-up:



This page is automatically generated on the basis of information provided on www.prelectronics.com and affiliated websites. It is provided to you as a service and for information purpose only. While we have attempted to maintain the information as accurately as possible, the page may contain errors or omissions for which we disclaim any and all liability

Order

Type	Version	
3118	With power rail connector / terminals	:-
	Supplied via terminals	:-N

Example: 3118

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	16.8...31.2 VDC
Max. required power	1.3 W
Max. power dissipation	0.43 W

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%)	< 7 ms or < 44 ms
MTBF, acc. to IEC 61709 (SN29500)	> 187 years
Signal / noise ratio	Min. 60 dB (0...100 kHz)
Signal dynamics, input	Analog signal chain
Signal dynamics, output	Analog signal chain
Programming	DIP switches
Cut-off frequency (3 dB)	> 100 Hz or 10 Hz (selectable via DIP-switch)
Accuracy	< ±0.05% of span
Temperature coefficient	< ±0.01% of span / °C
EMC immunity influence	< ±0.5% of span
Extended EMC immunity: NAMUR NE21, A criterion, burst	< ±1% of span

Input specifications

Current input

Measurement range	-23...+23 mA
Programmable measurement ranges	± 10 and ± 20 mA
Input voltage drop	< 1 VDC @ 23 mA

Voltage input

Measurement range	-11.5...+11.5 V
Programmable ranges	±5 and ±10 V
Input resistance	≥ 1 MΩ

Output specifications

Current output

Signal range	0...23 mA
Programmable signal ranges	0 / 4...20 mA
Bipolar wiring and programming set-up	±10 and ± 20 mA
Load (@ current output)	≤ 300 Ω per channel
Load stability	≤ 0.002% of span / 100 Ω
Current limit	≤ 28 mA

Voltage output

Signal range	0...10 VDC
Programmable signal ranges	0/1...5 and 0/2...10 V
Load (@ voltage output)	≥ 10 kΩ
of span	= of the presently selected range

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

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