



# 3010

## ANALOG INPUT OR OUTPUT, SIGNAL ISOLATOR

### Application

Provides two fully floating supplies to power either transmitters or actuators in a Hazardous Area. The module can be applied to interface two transmitters, two actuators or one transmitter and one actuator. Bi-directional communication is also provided for smart transmitters, current to pressure converters and valve positioners through the use of the optional HART® multiplexer on the termination board. Line faults are detected if the field signal is outside the nominated range.

### Specification

#### DC Supply

**CURRENT CONSUMPTION:** 50 mA at 24 V, 20 mA output (per channel).

**POWER DISSIPATION:** 0.9 W at 24 V (per channel).

#### Hazardous Area Signal (input)

**VOLTAGE AVAILABLE FOR TRANSMITTER AND LINES:** 15 V at 20 mA.

**INPUT RANGE:** 0-24 mA (overload limited).

**INPUT RESISTANCE FOR CURRENT SOURCE INPUT:** 50 Ohms, PTC protected.

**LINE FAULT DETECTION:** <0.5 mA open-wire, >23.5 mA shorted.

#### Hazardous Area Signal (output)

**OUTPUT RANGE:** 0 to 20 mA on a load of 0 to 750 Ω.

**LOAD EFFECT:** <0.1% of full scale from 0 to 750 Ω.

**RESPONSE TIME:** 40 msec, 10% to 90% output change.

**LINE FAULT DETECTION:** <0.5 mA open-wire.

#### Safe Area Signal

**OUTPUT:** serial data to communication gateway.

**RESOLUTION:** 14 bit.

**CONVERSION TIME:** input 16 msec; output 4 msec.

**SECONDARY OUTPUTS:** HART® signals to optional multiplexer.

**LOCAL BUS SCAN TIME:** see gateway specifications.

#### Performance at Reference Conditions

**TRANSFER ACCURACY:** <20 μA, 10 μA typical (<0.1% F.S.).

**TEMPERATURE DRIFT:** < ±0.01%/°C, ±0.005%/°C typical.

#### Other Parameters

**SOFTWARE CONFIGURABLE:** • Line fault detect (Enable/Disable).

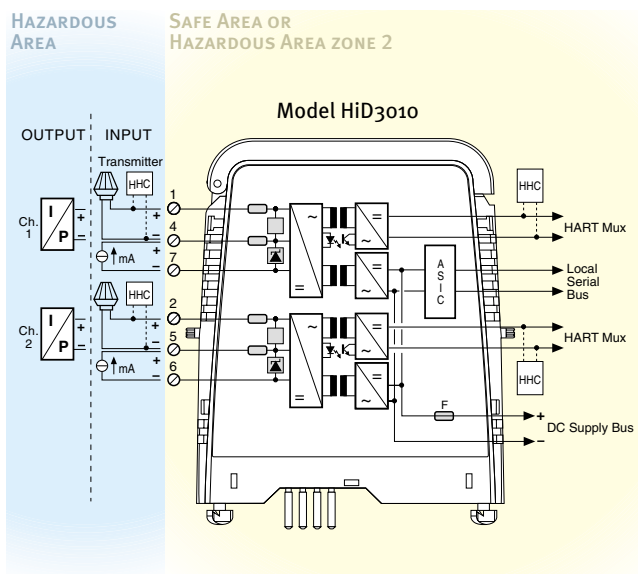
- Output drive in case of Fieldbus loss (ON-OFF or freeze current value).

**LED INDICATORS:** Power ON (green). Module fault (red). Line fault (red, per channel). Operating mode (yellow).

**SELECTOR SWITCHES:** Set as 2 analog input. 2 analog output. 1 analog input (ch.1) +. 1 analog output (ch. 2).

**FACTORY SET AS:** 2 analog input.

- Dual channel, fully floating.
- Analog input or output on either channel.
- 2 wire Smart Transmitters or current sources.
- Smart I/P and Valve positioners.
- Connections to HART® multiplexer and HART® HHC.
- Loop fault detection.



Term.	Safety Description	Maximum External Parameters				
		GROUPS CENELEC	USA	Co (μF)	Lo (mH)	L/R (μH/Ω)
1-4	Uo = 26.1 V	II C	A-B	0.097	4.1	58
	Io = 93 mA	II B	C-E	0.75	16.4	234
2-5	Po = 607 mW	II A	D-F-G	2.56	32.8	468
4-7*	Uo = 1.2 V	* SUITABLE FOR NON ENERGY STORING APPARATUS CONNECTION.				
5-6*	Io = <50 mA					
	Po = <25 mW					

