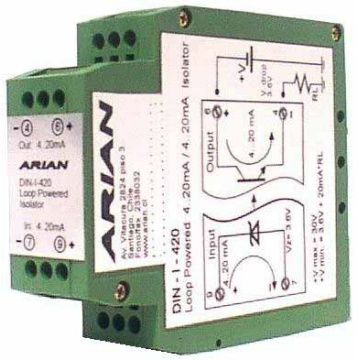
ARIAN
Industrial Control & Instrumentation

DIN-I-420:
Din rail 4... 20mA loop isolator



- **Loop powered, does not need additional power supply**
- **Service and 5 years guarantee.**

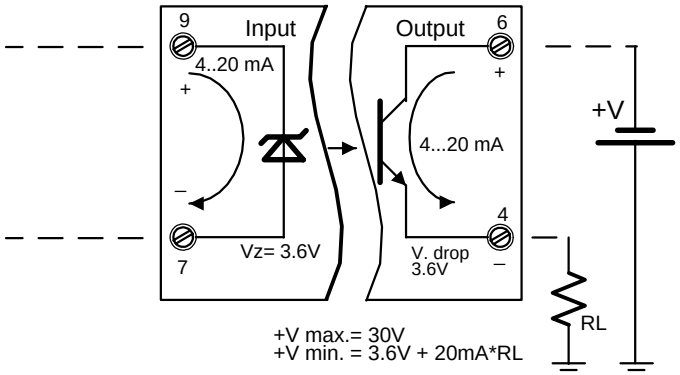
GENERAL DESCRIPTION

The device generates in its output a 4... 20mA loop identical to the one present in its input but optoisolated.
Galvanic isolation eliminates the problems produced by ground potencial differences in the plant and reduces the ones produced by electromagnetic interference.
Common applications are to create safe barriers and floating ground references for interconnecting several equipment without creating current return conflicts.

TECNICAL SPECIFICATIONS

INPUT:	Voltage drop:	3.6 V max.
OUTPUT:	Maximum operation voltage.	30 V
	Minimum operation voltage.	3.6 V + 20 mA * RL
	Isolation:	4000 V min.
	Temperature stability:	25 ppm / °C max.
	Long term stability:	20 ppm / año max.
CONSTRUCTION:	Material:	Poliester; IP65
	Total dimensions:	22 mm wide, 75 mm heigth , 110 mm deep.
	Assembly	Rail DIN
	Weight:	100 grams.
	Operation temperature:	-10 ... 50 °C.

CONNECTIONS



OPERATION

The DIN-I-420 operation is based on a opto-isolator composed by a light emiting diode (LED) on the input side, a reciever photo transistor on the output side and another reciever photo tranasistor in the input side. This last one feebacks for compasating and linealizing the LED light intensity variations caused by the operating temperature.
The input circuit makes a 3.6V drop on the input loop for feeding the LED and behaves similar to a zener diode.
The ouput current loop feeds the current regulator circuit drived by the photo transistor. This current loop feeding induces a 3.6V drop on the output loop.

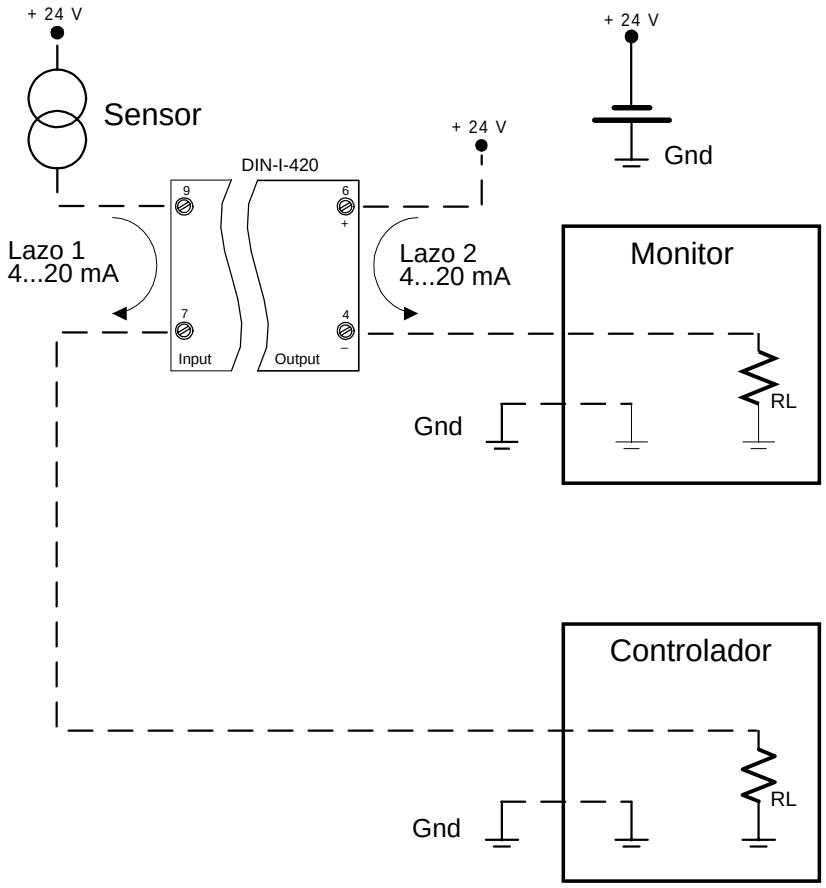
APPLICATIONS

Two common ground instruments 4..20 mA input

Two instruments, a controller and a monitor need to have 4... 20mA input from the same sensor and simultaneuslly to have common grounds.

The problem appears with the common ground requirement, because it is impossible to make a 4...20mA loop series connection through both instruments.

The solution is to generate a second identical but isolated current loop with floating ground for the monitor instrument.



PART CODE:

DIN-I-420

FOR MORE INFORMATION:

ARIAN S. A.
Teniente Montt 1932, Nuñoa,
Santiago, Chile
Fone/Fax 56-2-4249363
arian@arian.cl
www.arian.cl