

# PROCESS SIGNAL ISOLATORS

## SEM1020 LOOP BOOSTER

- (4 to 20) mA Output
- Galvanic Isolation 500 V DC Flash Tested 1 KV
- High Accuracy 0.05%
- 12.5 mm Wide
- 10 YEAR WARRANTY



### INTRODUCTION

The SEM1020 isolator is designed for use when power is available at both sides of the isolation barrier. This isolator requires no user adjustment during commissioning, apart from an initial test, to ensure it operates correctly over its full working range. Minor adjustments can be made to the calibration of the device by means of the two front panel accessible calibration potentiometers. Incorrect connection in the loop will not damage the device as long as the specified maximum currents/voltages are not exceeded.

### SPECIFICATIONS @ 20 °C

<b>INPUT</b>	TYPE	Current input 2 wire Loop powered
	RANGE	(4 to 20) mA (30mA Maximum)
	PROTECTION	Reverse connection
	VOLTAGE DROP	2.7 V maximum
	MAX LOOP VOLTS	35 V
<b>OUTPUT</b>	TYPE	2 wire Current Sink (4 to 20) mA
	LOOP VOLTAGE	(5 to 32) V d.c. (reverse protected)
LOOP VOLT DROP = 2.7 V		LOAD = 900 ohm @ Vs = 24 V
		LOAD = 1200 ohm @ Vs 30 V
Loads must be >250 R for ambients >50 °C		

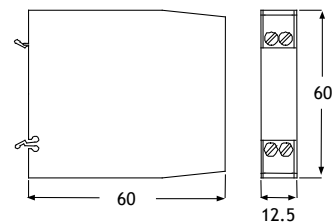
#### GENERAL SPECIFICATION

ISOLATION	500 V DC (flash tested @ 1 kV) (Isolation method, opto coupler / transformer)
ENVIRONMENT	BS EN61010-1 POLLUTION DEGREE 2; INSTALLATION CAT II; CLASS I
AMBIENT	(0 to 70) °C ; (10 to 95) % RH non condensing
LINEARITY	0.05 %
STABILITY	0.01 % / °C
RESPONSE TIME	Less than 100 mS to reach 70 % of final value.
EMC Tested to	BS EN 61326
ADJUSTMENT	Front Entry Fine Zero and Span Adjustment

### MECHANICAL DETAILS

CONNECTION	Captive clamp screws
CABLE SIZE	Maximum 4 mm sq solid / 2.5 mm sq stranded
CASE MATERIAL	Grey Polyamide
FLAMMABILITY	To UL94-VO VDE 0304 Part 3, Level IIIA
DIMENSIONS	Case A: (60 x 60 x 12.5) mm (67.5 above rail)
MOUNTING	Snap on "top hat" rail (DIN EN 50022-35)

(All dimensions in mm)

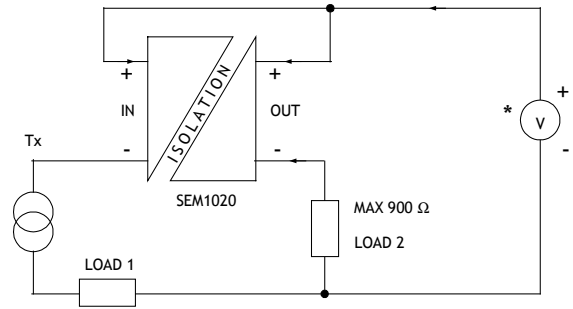


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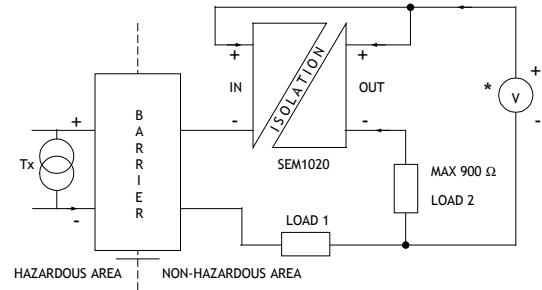
## APPLICATIONS

SEM1020

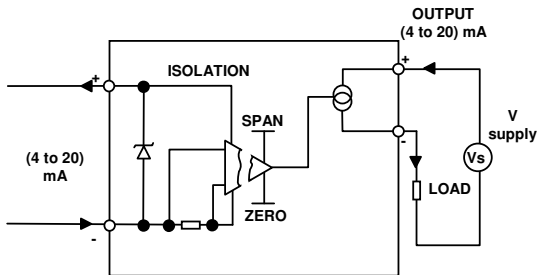
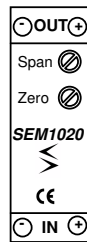
Used to increase the load drive capability of a (4 to 20) mA loop



Used to increase the limited drive capability of an intrinsically safe (4 to 20) mA loop



## SCHEMATIC



ORDER CODE: SEM1020