

SY027PSO/PSR Pulse Splitter



User Manual

Introduction

The SY027 is designed to convert pulses from meters or other turbine devices and transmit the same pulse via two relay outputs to enable two separate instruments to measure the rate simultaneously. It can be used with electricity, water or gas meters (**NOT ATEX**). It works with inputs from reed switch signals, Opto coupler, open collector, NAMUR or TTL pulse (up to 25V) with automatic debounce. The standard frequency range is up to 1 kHz and a maximum switching voltage of 280V, we also have an extra fast version which can reproduce pulses up to 5 KHz with a maximum switching voltage of 60V. The splitter is supplied in a very compact din rail mounted case as standard and requires 7-30VDC supply. If a sealed housing is required the DC powered version can be supplied in an 80mm square IP65 case. A universal AC mains powered version is also available in an IP67 ABS case with 4 cable glands.

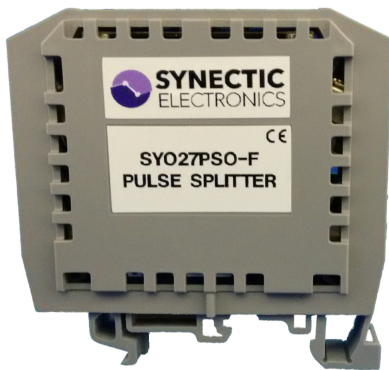


Fig 1: SY027 Din Rail mount
Size: 72.5mm x 18mm x 62mm



Fig 2: SY027 IP65 ABS version
Size: 80mm x 80mm x 52mm

Installation

Before installation check that the unit is secure and not damaged and that the environment specifications for the product are as indicated in the manual.

For the installation take into consideration the following:

- I. Ensure easy access to the component
- II. Ensure the component is stable upon installation with minimum vibration
- III. No contact with other electromagnetic components or close connections to minimise interference

Connections

Notes:

Pulse & open collector signals are referenced to terminal A, supply -.

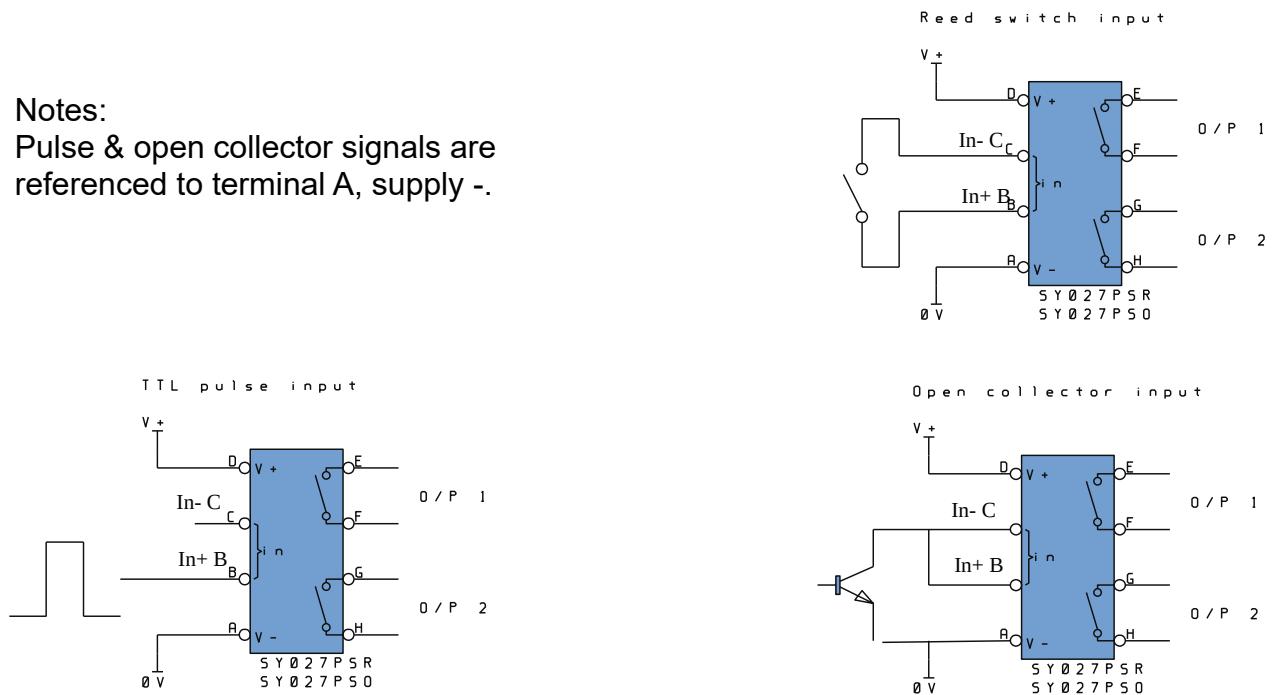


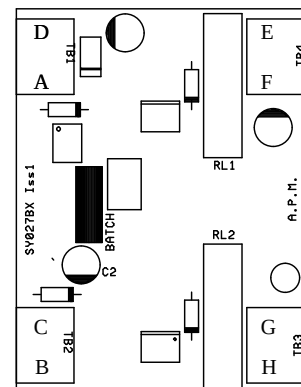
Fig 3: Typical board connections

Power supply connections

The positive connection from the power supply should be connected to terminal D and negative connection should be connected to terminal A. A supply range of 7 – 30VDC is required.

Other connection details are as illustrated below:

Terminal	Connection
A 0V	Supply negative
B IN+	Pulse input
C IN-	Feed
D V+	Supply positive
E	Relay 1 contact
F	Relay 1 contact
G	Relay 2 contact
H	Relay 2 contact



For a reed switch input, connect between terminals B and C & for a pulse input, connect between terminals B and A.

NOTE: The relay should not be used to directly switch mains voltages.

Specifications

Parameter	Min	Typ	Max
Power supply DC Version Mains AC Version	7V 110V	24V	30V 250V
Current Consumption PSR PSO		25mA 20mA	
Switching Voltage PSR PSO-F PSO-FX			200VDC 350VDC 60VDC
Switching Current PSR PSO-F PSO-FX			500mA 100mA 500mA
Relay on Resistance PSR PSO-F PSO-FX		0 Ω 35 Ω 0.7 Ω	0.2 Ω 50 Ω 1 Ω
Switch Power			10W
Operating Frequency PSR PSO-F PSO-FX	0Hz 0Hz 0Hz		55Hz 1KHz 5KHz
Operating temperature	-20°C		+85°C
Connections	Rising clamp terminals with 3.5 x 2.5mm apertures		
EMC	Tested to BS EN 61000-4-21:2011		
Case Din Rail Mount	H(on rail) = 72mm, W = 18mm, D = 62mm. Moulded in grey flame resistant polyamide. For use with rails to EN50035 (DIN46277-1) asymmetric or EN50022 (DIN46277-3) symmetric		
Case AC-IP65	Grey ABS D = 54mm, W = 162mm, H = 82mm. Hinged lid. Wall mount holes integral and outside sealed area. Glands M12 nylon fitted as standard, 4 on request		

NOTES:


For PSO versions, current switching is reduced for temperatures above 25C at a rate of 1mA/C° (ie at 85C maximum switching current drops to 40mA)

DECLARATION OF CONFORMITY FOR Pulse Splitters

Name of manufacturer or supplier:	Synectic Design Ltd
Registered office: (including country of origin)	48 Brindley Close Farnworth Bolton Lancashire England BL4 0AG
Postcode:	
Description of product:	SY027 Pulse Splitters including all variants
Standards under which conformity is declared:	
BS EN 61326-1:	2006 Electrical equipment for measurement, control and laboratory use-EMC requirements. Part1-2-3
BS EN 61000-4-2:1995, 1ec 61000-4-2:1995	Immunity to electrostatic discharge Tested up and including level 8KV Air discharge
BS EN 61000-4-3:2006 +A1:2008	Immunity to radiated frequency electromagnetic fields at 10V/M
BS EN 61000-4-4:2004	Immunity to electrical fast transient/burst. Test levels Up to and including +/-4KV on supply ports and +/-2KV on input/output signal and data ports. (test Level 4)
Directive 2011/65/EU (RoHS2) REACH (article 3)	In relation to restriction of use of certain hazardous substances in electrical and electronic equipment. Synectic Electronics Ltd are manufacturers of electronic hardware. We are seen as a 'down stream user' according to REACH regulations. We are therefore are not required to register with the European Agency for chemicals 'ECHA'.
Name of authorised representative:	Brian Peter Tonge
Position of authorised representative:	Technical Director

Declaration

I declare that, as the authorised representative, the above information in relation to the supply/manufacture of these products, when used as recommended, are in conformity with the stated standards and other related documents following the provision of EEC Directives.

Signature of authorised representative: 

Date: 15/09/2015