AX-PTA
Pulsewidth to analogue converter

AXIO

Product Overview

The AX-PTA converts a pulsewidth input signal into a 0-10 volt analogue output. Various pulsewidths are selectable and if required the input can be isolate. The AX-MPTA is supplied in a DIN Rail carrier suitable for mounting on TS35 section DIN Rail and features high quality rising clamp terminals for ease of connection.

Features

- Selectable input pulsewidth
- Fully isolated Input option
- AC or DC input
- 24V ac or dc powered
- Manual override option
- DIN rail mounting

Product Specifications

Inputs:	Non-isolated - volt free or 12 to 24V ac or dc pulse
	Isolated - 12 to 24V ac or dc pulse
Output:	0 - 10V dc at maximum load 10mA
Power Supply:	24V ac or dc (+/-15%).
Terminals:	Rising Clamp for 0.5-2.5mm² Cable
Ambient Temp:	0-50°C
Dimensions:	60 x 92.5 x 47mm (max.)
Country of Origin:	U.K.

Order Codes

AX-PTA - Pulsewidth to analogue converter

Description

The PTA (Pulsewith to analogue) is a single input pulsewidth to analogue converter. Jumpers A and B select the input pulse parameters, the available settings are shown in table 1. The output voltage, 0 to 10V, is proportional to the pulsewidth received. With 0 volts corresponding to the minimum pulsewidth and 10 volts corresponding to maximum pulsewidth. Graph 1 and 2 show the transfer functions. Pulsewidths outside the minimum or maximum range are ignored with the output remaining at its previous value.

Selection jumpers		Pulsewidth (S)	
A	B	MIN	MAX
OFF	OFF	0.02	5.00
OFF	ON	0.10	10.00
ON	OFF	0.10	25.50
ON	ON	0.59	2.93

Table 1 Input pulsewidth options.

Isolated input

The pulse input terminals IP+ and IP- can be isolated from the output terminals and the PTA power supply. The Input dc/ac jumper should be removed if isolation is required and the external input circuit must provide the drive voltage and current, independant of the power supply. The input pulse amplitude should be between 12 and 24 Vac or Vdc.
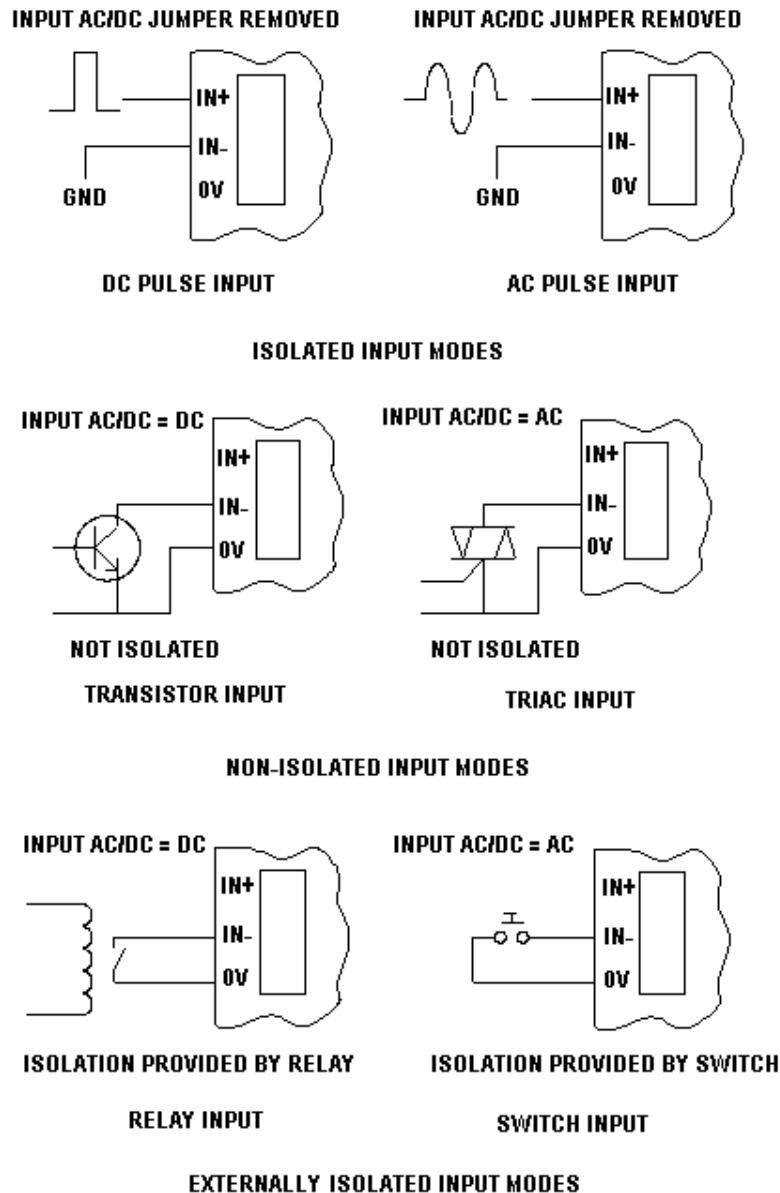
Non isolated input

If isolation is not necessary the PTA supply, ac or dc, can be linked to the internal input circuitry using the Input ac/dc jumper. The PTA input terminal (Input-) would then source approximately 8 mA of current, requiring only a switching device to be connected to 0V for operation. The acor dc option should be selected depending on the switching device used. The ac option is only usable if the PTA is powered from an ac supply. Possible input configurations are shown in figure 1

Installation

The AX-PTA should be installed by a suitably qualified technician in conjuction with any guidelines for the equipment which it is to be connected to. Field wiring should installed to satisfy the requirements set out by the manufacturer of the equipment that the module is being connected to using screened cabled where necessary.

Figure 1. Input configurations.

DC PULSE INPUT — INPUT AC/DC JUMPER REMOVED

AC PULSE INPUT — INPUT AC/DC JUMPER REMOVED

ISOLATED INPUT MODES

TRANSISTOR INPUT — INPUT AC/DC = DC — NOT ISOLATED

TRIAC INPUT — INPUT AC/DC = AC — NOT ISOLATED

NON-ISOLATED INPUT MODES

RELAY INPUT — INPUT AC/DC = DC — ISOLATION PROVIDED BY RELAY

SWITCH INPUT — INPUT AC/DC = AC — ISOLATION PROVIDED BY SWITCH

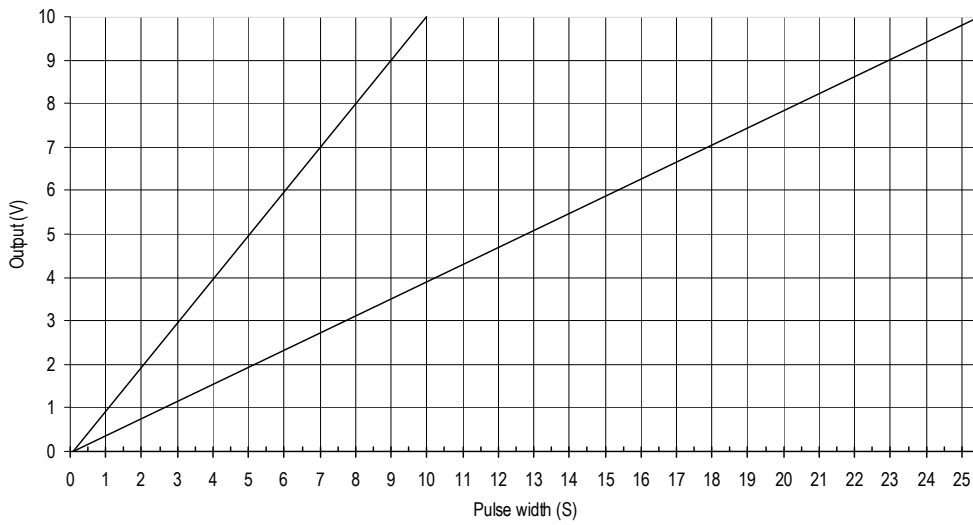**EXTERNALLY ISOLATED INPUT MODES**

Power supply

The unit can be powered from either 24 Vac or 24 Vdc

Commisioning

For testing purposes jumper MD (Mode) can be moved to the 'MAN' position and the output voltage set using variable resistor MSET (VR2), moving jumper MD to the 'AUTO' position for normal operation.
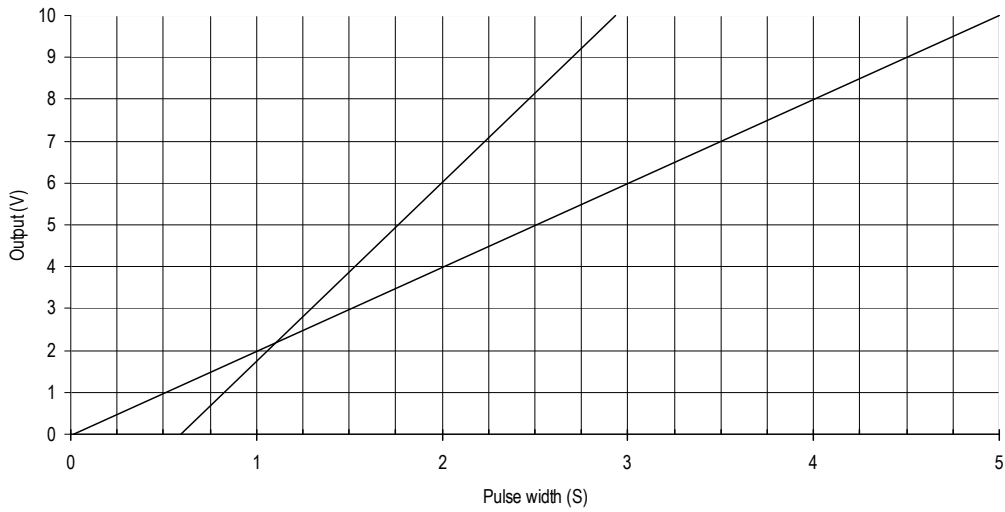
Graph 1. 0.59-2.93 S and 0.02-5.00 S input-output transfer functions.

Graph 2. 0.1-10.00 S and 0.1-25.50 S input-output transfer functions.