

P555 - Raw Pulse-bus Input



FEATURES

- ▶ *Opto-isolated Input Stage*
- ▶ *Pulse Stretched Output Option*
- ▶ *Wide Input Range PSU*
- ▶ *Differential Output Driver*

DESCRIPTION

Opto-isolated Input Stage

The input stage is very simple and comprises of two resistors and an optically coupled isolator consisting of a Gallium Arsenide infrared emitting diode and a microprocessor compatible Schmitt trigger output. The input stage was designed exactly as defined in the Experion PKS 430, Series C IO Users Guide (EPDOC-X126-en-430, section 6.10). This is a current mode input, and will have a high noise rejection. If used in voltage mode the minimum input signal should be 6 Volts, and may be as high as 32 Volts.

Pulse Stretcher and LED Driver

Two re-triggerable monostable units are utilised for the pulse stretching. The first stage ensures that a minimum pulse width of 80us is generated. If Link LK1 is set to position 1-2, then the minimum pulse width is set by the monostable. Note this does limit the maximum frequency to around 12KHz. Setting the link in the 2-3 position bypasses the pulse stretcher, and the raw signal is passed on to the differential output stage, and a signal of 100KHz or more could be passed to the driver stage.

The second monostable is used to widen the pulse much further, so that the LED will light even with a pulse frequency of 1Hz.

Wide Input Range PSU

There are two pairs of input terminals that are diode-OR'ed together, to allow redundant power supplies to power the unit. The diode-OR'ed power can be in the range 12-24VDC, and the differential signals will be driven to 2.5V Minimum, with a load in excess of 30mA. If the supply voltage is reduced to 12VDC, the output level will be reduced, but it will satisfactorily drive the ST103 Raw Pulse Bus Input.

Differential Output Stage

A robust, bipolar, 5V dual differential line driver is used to generate a signal compatible with the NANO Raw Pulse Bus input stage. The chip fitted has two pairs of outputs, and both are driven, and either may be used. The outputs are short-circuit protected.

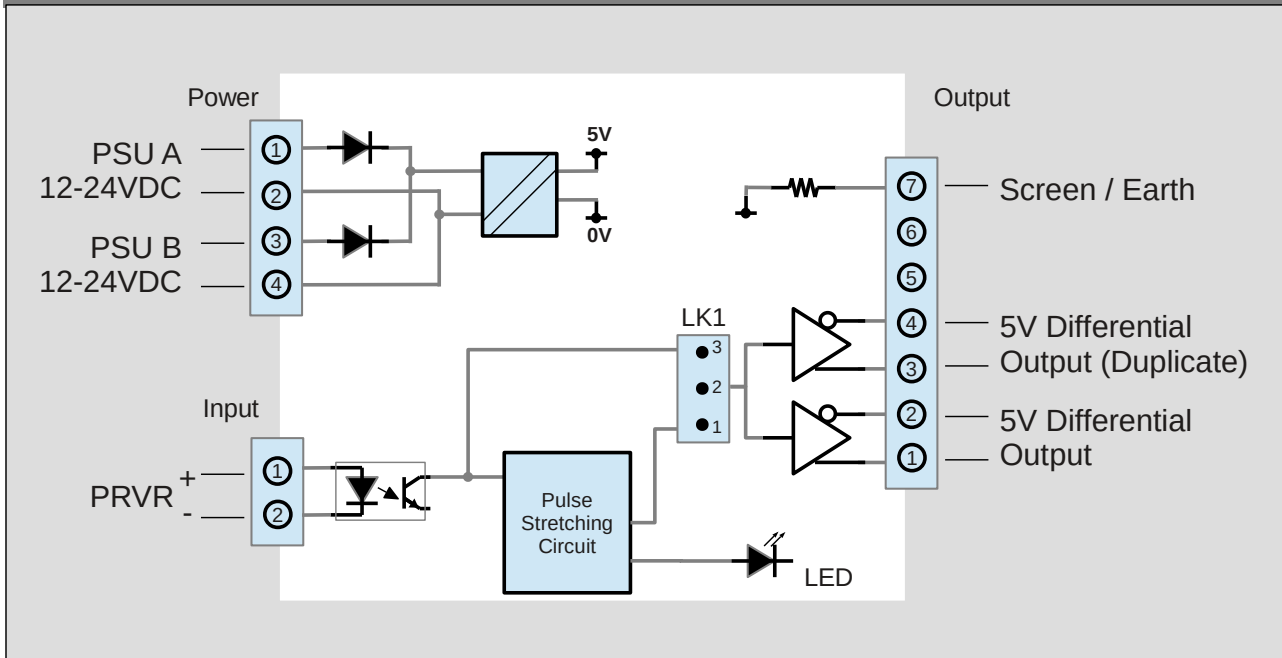


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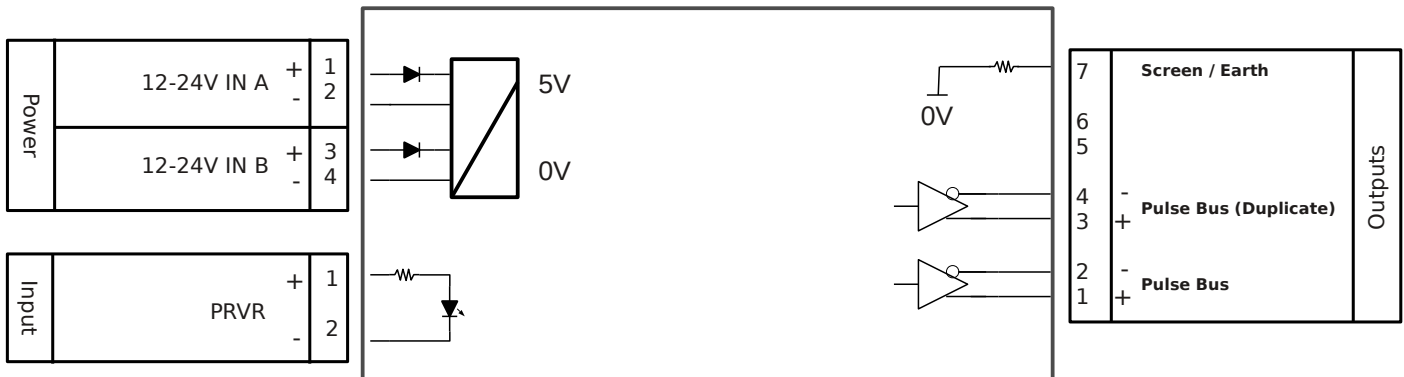
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TECHNICAL DATA SHEET

BLOCK DIAGRAM OF P555-RPI



I/O REPRESENTATION OF P555-RPI



P555-RPI SPECIFICATION

- Supply Voltage** = 12-24VDC, (12V min, 32V max.)
- Max. Input Signal** = 10KHz (Jumper LK1 in position 1-2)
- Differential Outputs** = 5V Nominal
- Dimensions** = 45 x 130 x 70 mm including feet (L x W x H)
- Mounting** = Needs 45mm length of top-hat DIN Rail to EN50022

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P555-RPI_Technical_Datasheet_R1

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