T130 Module — Frequency Input

SPECIFICATION

Frequency Measurements

Frequency Range: 0.01Hz to 30kHz

Magnetic Inputs: 10Hz to 30kHz
Overrange: 60kHz

Minimum Pulse Length: 8µs

Hardware Response Time:
Above 15Hz: 125ms max
Below 15Hz: waveform period + 125ms max

Resolution: better than 0.006%

Time Base Accuracy: set by base unit (0.05% over 5 years)

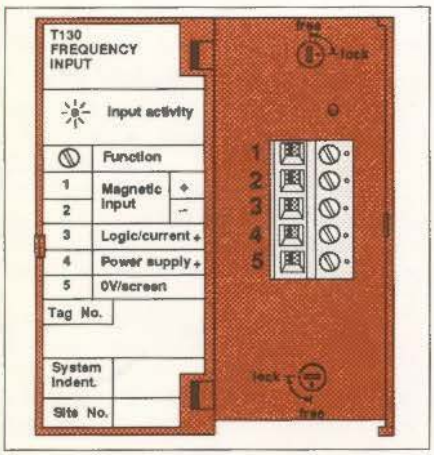

Figure 24 *T130 Frequency Input*

T130 Features

— Ranged PV
— Filter
— Characterisation (Implemented using CHAR block)
— Low Cutoff/Default PV
— Debounce

— Alarms:
- ■ Absolute
- ■ Over/Under range
- ■ Open Circuit Detection

(*Not with voltage or magnetic inputs*)
- ■ Module Hardware Error

Transducer Interface

Magnetic Pick-up:

Input Type: bipolar

Input Impedance: >30kΩ

Signal Voltage Range: 10mV to 30V (1mV/Hz) rising with frequency

Threshold: at cross-over of inputs

Transmitter Power Supply

Voltage Settings: 8, 12, 24V

Tolerance: ±10% (max 26 volts)

Current Limit: 21 to 30mA (temperature dependent)

Logic Input

Transmitter Type	Logic	Pre-amplifier	Proximity (DIN 19 234)	Contact
Burden Resistor	>100kΩ	50Ω	1kΩ	5kΩ
Typical Supply Volts		24V	8V	24V
Thresholds	0.4, 1.6, 3.5, 10V	9mA	1.6, 3.5mA	0.7, 2mA
Open Circuit Detect	0.1V	2mA	0.1mA	0.02mA

Table 10 *Logic Input Selection*

Open Circuit Input Detection Time: 1 scan time (no filter or delay) (Burden Resistor inputs only)

Proximity Input: DIN 19 234 (NAMUR)/PNP types

Maximum Input Voltage: 50V (absolute)

Minimum High/Low Pulse: 8µs (10:1 mark to space ratio)

Debounce (Contact): selectable 25ms (max 20 pulses/sec)

Closed Contact Current: 5.2mA ± 1mA (24V/5kΩ burden)

DESCRIPTION

The T130 Frequency Input module provides an isolated interface to frequency input signals. The module has a programmable power supply and software selectable burden resistors, and therefore can be used with a wide range of current pre-amplifiers, proximity detectors and volt free contact input as well as magnetic input transducers. An LED located above the connectors indicates the operating status of the input signal. The module has no build options and requires no hardware configuration or calibration.

Order Code. T130/TAG – – – – – – – –
(if the TAG is not specified it will be supplied blank)

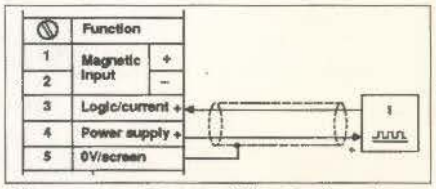

Figure 25 *T130 2-Wire Current Input*

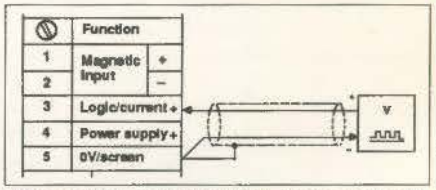

Figure 26 *T130 2-Wire Voltage Input*

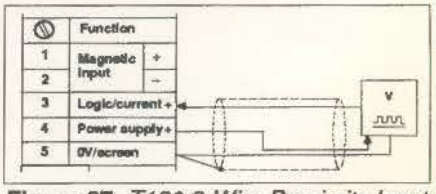

Figure 27 *T130 3-Wire Proximity Input*

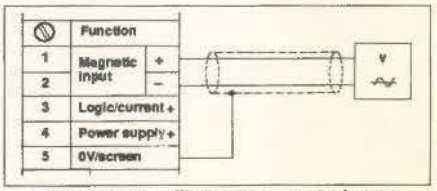

Figure 28 *T130 Magnetic Input*