f/I-f/f converter

2255

– Programmable f/I converter
– Programmable decimal divider / decimal multiplier
– Programmable frequency generator
– Relay output as option
– Supply voltage 24 VDC

Advanced features

- The user programmable version has a multifunction user interface consisting of three pushbuttons and a 3-digit LED displays.

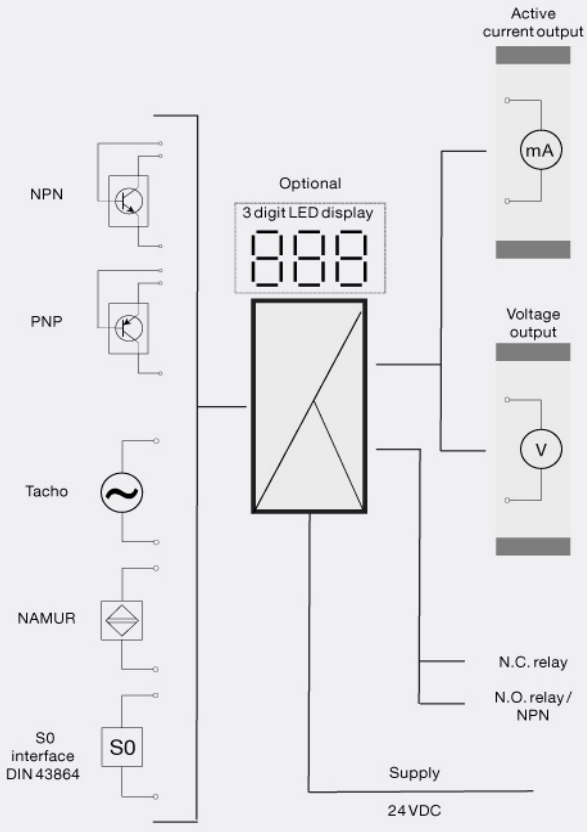
Application

- Typical signalling devices may be pulse generators, for instance flow meters, tacho-generators or inductive sensors.
- The f/I function is used for frequency to current / voltage conversion.
- The f/f function is used for division or multiplication of pulses and as a buffer for fast pulse trains.
- A frequency generator function e.g. used as a time base or a clock generator.

Technical characteristics

- 3 front LEDs, indicating f.in active input (not NPN), Dig.out (NPN or relay 1) active output and a NAMUR input error signal.
- Analog current output can be configured within 0...20 mA range.
- Voltage output range is selectable between 0...10 VDC by use of internal jumpers.
- Feature include input filter, contact filter and an auxiliary supply for sensor such as NAMUR and S0.
- Mounting for a standard 11-pole socket which can be adapted for DIN rail or plate use with PR's 7023 adaptor and 7024 mounting keying.

Connections



Order:

Type	Version	Output
2255	Programmable : B	Analog + NPN output : 1 Analog + relay output : 2

Environmental Conditions

Specifications range	-20°C to +60°C
Calibration temperature	20...28°C
Relative humidity	< 95% RH (non-cond.)
Protection degree	IP50

Mechanical specifications

Dimensions (HxWxD)	80.5 x 35.5 x 84.5 mm (D is without pins)
Weight approx.	125 g

Common specifications

Supply voltage	19.2...28.8 VDC
Internal consumption	2.4 W
Isolation voltage, test / working	1.4 kVAC / 150 VAC
Warm-up time	1 min.
Signal / noise ratio	Min. 60 dB
Response time (programmable)	60 ms to 999 s + period time
Accuracy	Better than 0.1% of selected range
Signal dynamics, output	16 bit
Effect of supply voltage change	< 0.005% of span / VDC
Temperature coefficient	< ±0.01% of span / °C
Linearity error	< 0.1% of span
S0 supply	15 VDC / 25 mA
Special supply (programmable)	5...15 VDC / 30 mA (acc. to order)
EMC immunity influence	< ±0.5%

Input specifications

Max. offset	90% of selec. max. value
Measurement range	0...20 kHz
Min. measurement range	0.001 Hz
Low cut-off frequency	0.001 Hz
Min. pulse length	25 µs
Input types	NAMUR acc. to DIN 19234
Input types	Tacho
Input types	NPN / PNP
Input types	TTL
Input types	S0 acc. to DIN 43864

Output specifications

Max. offset	50% of selected max. value
Current output: Signal range	0...20 mA
Min. signal range	5 mA
Updating time	20 ms
Load (max.)	20 mA/600 Ω/12 VDC
Load stability, current output	≤0.01% of span / 100 Ω
Voltage output through internal shunt	See manual for details
Max. current, NPN output	130 mA
Max. voltage, NPN output	28 VDC
Frequency output range	0...1000 Hz
Min. pulse length	500 µs
Max. pulse length	999 ms
Max. duty cycle	50%
Frequency generator: Pulse length f < 50 Hz	Min. 10 ms
Frequency generator: Pulse length f < 50 Hz	Max. 999 s
Pulse length f ≥ 50 Hz	50% duty cycle
Relay output: Max. switching frequency	20 Hz
Max. voltage	150 VRMS
Max. current	2 AAC
Max. AC power	300 VA
Max. load at 24 VDC	1 A
*of span	= of the presently selected range

Approvals

EMC	EN 61326-1
LVD 2006/95/EC	EN 61010-1
EAC TR-CU 020/2011	EN 61326-1

Whilst every effort has been made to ensure the accuracy of this specification, we cannot accept responsibility for damage, injury, loss or expense from errors or omissions. In the interest of technical improvement, this specification may be altered without notice.

For pricing or any further information, please contact Omni Instruments Ltd.

omni INSTRUMENTS
Measurement and data acquisition solutions

Contact Details:
Tel: +44 845 9000 601
Fax: +44 845 9000 602
Local Tel: 01382 443000
Email: info@omni.uk.com

Mailing Address:
Suite E, East Kingsway Business Centre,
Mid Craigie Trading Estate, Mid Craigie Road,
Dundee, DD4 7RH, UK