



FU252

Signal converter: frequency → analog (voltage / current) and serial (RS232 / RS485)

Product Features:

- Conversion of quadrature signals (A, B, 90°) as well as single-channel signals (HTL, TTL or RS422)
- Suitable for conversion of the sum, the difference or the ratio of two frequencies
- Wide input frequency range from 0.1 Hz up to 1 MHz
- Extremely short conversion time of 1 msec. ($f > 2 \text{ kHz}$)
- Analog output configurable for voltage or current operation
- Polarity of analog signal depending of the direction of rotation
- RS232 or RS485 interfaces for serial readout of the input frequencies
- Programmable digital filters and programmable linearization curves
- Easy to set up by simple TEACH procedure, or by PC operator software

Technical Specifications:		
Power supply:	Input voltage:	18 ... 30 VDC
	Protection circuit:	reverse polarity protection
	Ripple:	≤ 10 % at 24 VDC
	Consumption:	approx. 75 mA (unloaded)
Connections:	Connector type:	screw terminals, 1.5 mm ² / AWG 16
Encoder supply:	Output voltage:	+ 5.5 VDC
	Output current:	max. 250 mA
Incremental input:	Signal levels:	RS422: Differential voltage > 1 V TTL: LOW: 0 ... 0.5 V / HIGH: 2.5 ... 5.3 V HTL: LOW: 0 ... 3 V / HIGH: 10 ... 30 V
	HTL characteristic:	NPN / PNP
	HTL internal resistance:	R _i ≈ 4.75 kOhm
	Channels:	A, /A, B, /B
	Frequency:	max. 1 MHz at RS422 and TTL symmetrical max. 200 kHz at HTL and TTL asymmetrical
	Accuracy (frequency measurement):	0.02 % +/- 1 digit
Control input:	Application:	connection of inductive proximity switches or control commands
	Signal levels:	HTL: LOW: 0 ... 3 V / HIGH: 10 ... 30 V
	Pulse time:	min. 5 ms
Analog outputs:	Voltage output:	-10 ... +10 V / 0 ... 10 V (max. 2 mA)
	Current output:	0 ... 20 mA / 4 ... 20 mA (burden: max. 270 Ohm)
	Resolution:	14 Bit (± 13 Bit)
	Accuracy:	0.1%
	Resolution per bit:	1.25 mV / 2.5 µA
	Reaction time (standard operation):	depends on sampling time and frequency, approx. 1 ms (f _{in} > 2 kHz); 1/f in (f _{in} < 1 kHz)
Housing:	Reset time (in case of a sudden interruption):	5 ms (without average), 700 ms (max. average)
	Material:	plastic
	Mounting:	35 mm top hat rail (according to EN 60715)
	Dimensions (w x h x d):	40 x 79 x 91 mm / 1.5748 x 3.1102 x 3.5827 inch
	Protection class:	IP20
	Weight:	approx. 190 g
Ambient temperature:	Operation:	0 °C ... +45 °C / +32 ... +113 °F (not condensing)
	Storage:	-25 °C ... +70 °C / -13 ... +158 °F (not condensing)
Failure rate:	MTBF in years:	75.2 a (long-term usage at 60 °C / 140 °F)
Conformity and standards:	EMC 2004/108/EC:	EN 61000-6-2, EN 61000-6-3, EN 61000-6-4
	RoHS 2011/65/EU:	EN 50581