

Universal frequency converter

3225

- Input: NAMUR, NPN, PNP, Tacho, TTL, S0 & switches
- Output: Universal mA / V or relay
- 2.5 KVAC isolation
- DIP-switch or display programmable
- Power supply 16.8 VDC...31.2 VDC



Functional highlights

- Measures frequencies up to 100 kHz.
- Active current output.
- Buffered voltage output 10 VDC.
- 2-point process calibration.
- User-programmable trigger levels -0.05...6.5 V and sensor supply 5...17 V.
- NAMUR sensor error detection.
- Output relay with windows, setpoint and latch functionality.
- Simulation of process value during commissioning / maintenance.
- Fast response time, with simultaneous sensor error detection (PATENTED).
- All terminals are over-voltage protected, polarity protected and short-circuit protected.

Technical highlights

- Accuracy < 0.06% / span.
- Response time < 30 ms.
- 2.5 kVAC, 3-port galvanic isolation.
- Wide ambient temperature range -25...70°C.
- NAMUR NE21, NE43.

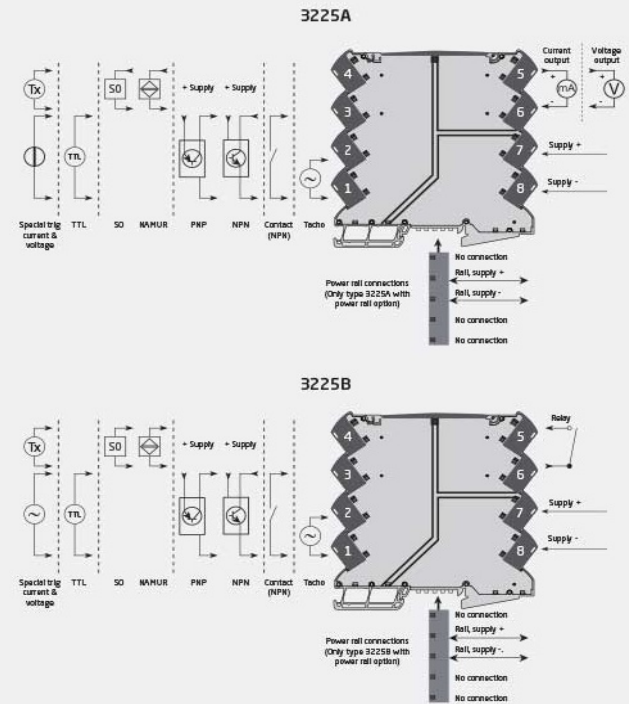
Programming

- Easy configuration via DIP switches.
- Factory calibrated in all selectable measurement ranges.
- Configuration, monitoring, and diagnostics using PR 4500 detachable communication interfaces via the PR 4590 ConfigMate.
- All programming can be password protected.
- Scrolling help text in 7 languages.

Mounting

- Units can be mounted side by side, horizontally and vertically, without air gap on a standard DIN rail, even at 70°C ambient temperature.
- Units can be supplied separately or installed on PR 9400 power rail.
- The narrow 6.1 mm housing allows up to 163 units per meter.

Applications



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

Order

Type	Version		
3225	Universal frequency converter , analog output	: A	With power rail connector / terminals : -
	Universal frequency converter, alarm relay output	: B	Supplied via terminals : -N

Example: 3225B-N (Universal frequency converter, alarm relay output, supplied via terminals)

Environmental Conditions

Operating temperature.....	-25°C to +70°C
Storage temperature.....	-40°C to +85°C
Calibration temperature.....	20...28°C
Relative humidity.....	< 95% RH (non-cond.)
Protection degree.....	IP20
Installation in.....	Pollution degree 2 & meas. / overvoltage cat. II

Mechanical specifications

Dimensions (HxWxD).....	113 x 6.1 x 115 mm
Weight approx.....	70 g
DIN rail type.....	DIN EN 60715/35 mm
Wire size.....	0.13...2.5 mm ² / AWG 26...12 stranded wire
Screw terminal torque.....	0.5 Nm

Common specifications

Supply

Supply voltage.....	16.8...31.2 VDC
Fuse.....	400 mA SB / 250 VAC
Max. required power.....	≤ 1.2 W
Max. power dissipation.....	0.65 W

Isolation voltage

Isolation voltage, test / working.....	2.5 kVAC / 300 VAC (reinforced)
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Response time

Response time (0...90%, 100...10%).....	≤ 30 ms
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Auxiliary supplies

Sensor supply limitation.....	23 mA, 5...17 V
Signal dynamics, output.....	18 bit
Long term stability, current, 1yr / 5yr @ 25°C.....	≤ 0.058% / ≤ 0.101%
Long term stability, voltage, 1yr / 5yr @ 25°C.....	≤ 0.032% / ≤ 0.058%
Accuracy.....	See manual for details
EMC immunity influence.....	< ±0.5% of span
Extended EMC immunity: NAMUR NE21, A criterion, burst.....	< ±1% of span

Input specifications

Frequency input

Frequency range.....	0.001 Hz to 100 kHz
Time range, time function.....	10 μs to 999.9 s
Max. frequency / min. pulse width, with input filter ON.....	75 Hz / 8 ms

Sensor specifications

Tacho, trig-level LOW / HIGH.....	≤ -50 mV / ≥ +50 mV
NPN / PNP, trig-level LOW / HIGH.....	≤ 4.0 V / ≥ 7.0 V
TTL, trig-level LOW / HIGH.....	≤ 0.8 V / ≥ 2.0 V
S0, trig-level LOW / HIGH.....	≤ 2.2 mA / ≥ 9.0 mA
NAMUR, trig-level LOW / HIGH.....	≤ 1.2 / ≥ 2.1 mA

Special voltage / current input

User-programmable trig-levels.....	-0.05...6.50 V
User-programmable trig-levels.....	0.0...10.0 mA

Output specifications

Current output

Signal range, active.....	0...23 mA
Programmable signal ranges.....	0 / 4...20 mA
Load (@ current output).....	≤ 600 Ω
Load stability.....	≤ 0.001% of span / 100 Ω
Response time, programmable.....	0.0...60.0 s
Sensor error indication.....	0 / 3.5 / 23 mA / none
Current limit.....	≤ 28 mA

Voltage output

Signal range.....	≤ 11.5 VDC
Programmable signal ranges.....	0...1; 0...5; 0...10; 0.2...1; 2...10 VDC
Load (@ voltage output).....	≥ 10 kΩ
Response time, programmable.....	0.0...60.0 s

Relay output

Relay functions.....	Setpoint, Window and Latch
Hysteresis.....	0...100%
ON and OFF delay.....	0...3600 s
Power On delay.....	0...9999 s
Sensor error reaction.....	Break / Make / Hold
Max. voltage.....	250 VAC / 200 VDC
Max. current.....	2 A
Max. AC power.....	500 VA
Max. DC current, resistive load ≤ 30 VDC.....	2 ADC
Max. DC current, resistive load > 30 VDC.....	See manual for details

Observed authority requirements

EMC.....	2014/30/EU & UK SI 2016/1091
LVD.....	2014/35/EU & UK SI 2016/1101
RoHS.....	2011/65/EU & UK SI 2012/3032
ATEX.....	2014/34/EU & UK SI 2016/1107

Approvals

ATEX.....	KEMA 10ATEX0147 X
IECEx.....	KEM 10.0068X
UKEX.....	DEKRA 21UKEX0055X
c UL us, UL 61010-1.....	E314307

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Measurement and data acquisition solutions

Contact Details:

Tel: +44 1382 443000
Email: info@omni.uk.com

Website: www.omniinstruments.co.uk

Mailing Address:

Unit 1, 14 Nobel Road,
Wester Gourdie Industrial Estate,
Dundee, DD2 4UH.