PERFORMANCE MADE SMARTER

# Programmable frequency indicator

## 5725

- Measures NPN, PNP, Contact, NAMUR, S0, Tacho and TTL sensors
- Programmable frequency input span of 0.001 Hz to 50 kHz
- The 5725D has two SPDT relays and one analog output
- Easy to read 4-digit, 14-segment LED display with scrolling help text
- Universally powered by 21.6…253 VAC or 19.2… 300 VDC

### Application

- The 5725 measures, scales, and displays frequency signals found in many process speed and flow rate applications.
- The indicator can measure the period of the frequency, useful for displaying the elapsed time between events.
- The 5725D has two SPDT setpoint contacts and a 0/4...20 mA output for process control.
- The installed display provides IP65 environmental sealing, and additional protection is provided by the optional 8335 splash proof cover.

### Technical characteristics

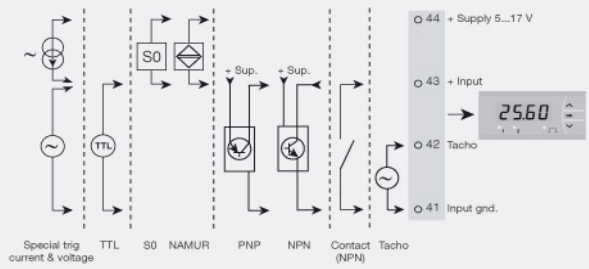
- 4-digit display with 13.8 mm high, 14-segment LED digits and adjustable decimal point.
- Indicator is scalable from -1999 to 9999.
- Scrolling help text makes programming easy.
- Customizable trigger levels allow measurement of nearly any pulse sensor.
- Built-in excitation source for measuring NPN, PNP, NAMUR and S0 sensors.
- Fast response time of 1 cycle + 100 ms, and excellent accuracy of better than 0.05% of selected range.
- The analog output current on the 5725D can be dampened from 0.1 to 60 seconds, and can handle up to 800 Ohms loop load.
- The 5725 meets NAMUR NE21 recommendations for high performance in harsh EMC environments.
- 2.3 kVAC galvanic isolation between input, output and supply.
- Excellent signal/noise ratio of > 60dB.

### Mounting / installation / programming

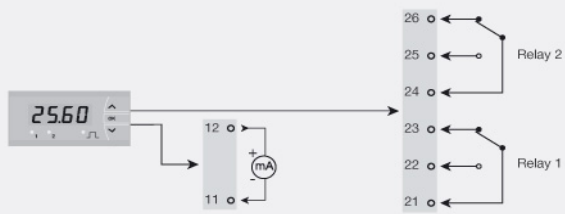
- Easy to mount 1/8 DIN (48x96 mm) panel meter with IP65 (type 4X) sealing.
- Approved for marine applications.
- Fully push-button programmable.
- Password-protected.

## Applications

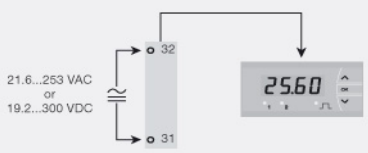
### Input signals:




### Output signals:




### Supply:

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Order:

| Type | Version | |
|---|---|---|
| 5725 | Standard | : A |
| | Analog output and 2 relays | : D |

## Environmental Conditions

| | |
|---|---|
| Operating temperature | -20°C to +60°C |
| Storage temperature | -40°C to +85°C |
| Calibration temperature | 20...28°C |
| Relative humidity | < 95% RH (non-cond.) |
| Protection degree | IP20 |
| Protection degree (mounted in panel) | IP65 / Type 4X |
| Installation in | Pollution degree 2 & meas. / overvoltage cat. II |

## Mechanical specifications

| | |
|---|---|
| Dimensions (HxWxD) | 48 x 96 x 120 mm |
| Cut out dimensions | 44.5 x 91.5 mm |
| Weight approx. | 230 g |
| Wire size, pin 11-12 & 41-44, max. | 1 x 1.5 $mm^2$/ AWG 30...16 stranded wire |
| Wire size, others, max. | 1 x 2.5 $mm^2$/ AWG 30...12 stranded wire |
| Terminal connection | Spring-cage |
| Vibration | IEC 60068-2-6 |
| 2...13.2 Hz | ±1 mm |
| 13.2...100 Hz | ±0.7 g |

## Common specifications

**Supply**

| | |
|---|---|
| Supply voltage, universal | 21.6...253 VAC, 50...60 Hz or 19.2...300 VDC |
| Max. required power | < 2.8 W (5725A) |
| Max. required power | < 3.6 W (5725D) |

**Isolation voltage**

| | |
|---|---|
| Isolation voltage, test / working | 2.3 kVAC / 250 VAC |

**Response time**

| | |
|---|---|
| Response time (0...90%, 100...10%) | < 1 period + 100 ms |
| Signal / noise ratio | > 60 dB |
| Accuracy | Better than 0.05% of selected range |
| EMC immunity influence | < ±0.5% of span |
| Extended EMC immunity: NAMUR NE21, A criterion, burst | < ±1% of span |

## Input specifications

| | |
|---|---|
| Frequency range, f/I conversion function | 0.001 Hz to 50 kHz |
| Low cut-off frequency | 0.0009 Hz (default value) |
| Max. frequency, with input filter ON | 50 Hz |
| Time range, period time function | 999.9 s to 20 µs |
| Low cut off period time (time-out) | 1111 s |
| Min. period time with input filter ON | 20 ms |
| Input types | NAMUR acc. to EN 60947-5-6 |
| Input types | Tacho |
| Input types | NPN / PNP |
| Input types | TTL |
| Input types | S0 acc. to DIN 43864 |
| Input types | Special voltage |
| Input types | Special current |

## Output specifications

**Display**

| | |
|---|---|
| Display readout | -1999...9999 (4 digits) |
| Decimal point | Programmable |
| Digit height | 13.8 mm |
| Display updating | 2.2 times / s |
| Display response time, programmable | 0.0...60.0 s |
| Input outside input range is indicated by | Explanatory text |

**Current output**

| | |
|---|---|
| Programmable signal ranges | 0...20/4...20/20...0/20...4 mA |
| Load (@ current output) | ≤ 800 Ω |
| Load stability | ≤ 0.01% of span / 100 Ω |
| Current limit | ≤ 28 mA |
| Sensor error indication | 0 / 3.5 / 23 mA / none |
| Output limitation, on 4...20 and 20...4 mA signals | 3.8...20.5 mA |
| Output limitation, on 0...20 and 20...0 mA signals | 0...20.5 mA |

**Relay output**

| | |
|---|---|
| Relay functions | Setpoint |
| Hysteresis, in % / display counts | 0...100% / 0...9999 |
| ON and OFF delay | 0...3600 s |
| Power On delay | 0...60 s |
| Sensor error reaction | Break / Make / Hold |
| Max. voltage | 250 VAC / VDC |
| Max. current | 2 A |
| Max. AC power | 500 VA |
| 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 |
| EAC | TR-CU 020/2011 |
| EAC LVD | TR-CU 004/2011 |

## Approvals

c UL us, UL 508..... E248256
EU RO MR Type Approval..... MRA000000Z

5725-050124