

## 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

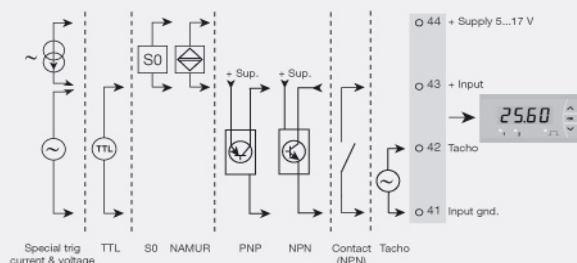
- 4-digit display with 13.8 mm high, 14-segment LED digits and adjustable decimal point.
- Indicator is scalable from -1999 to 9999.
- Scrolling help text makes programming easy.
- Customizable trigger levels allow measurement of nearly any pulse sensor.
- Built-in excitation source for measuring NPN, 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

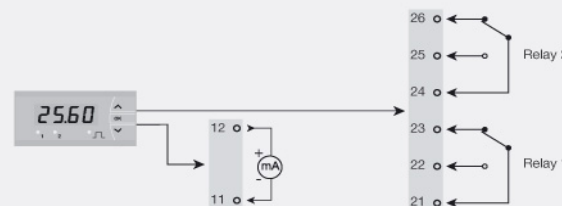
- Easy to mount 1/8 DIN (48x96 mm) panel meter with IP65 (type 4X) sealing.
- Approved for marine applications.
- Fully push-button programmable.
- Password-protected.

#### Applications

##### Input signals:



##### Output signals:



##### Supply:



**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 <sup>2</sup> / AWG 30...16 stranded wire |
| Wire size, others, max.....            | 1 x 2.5 mm <sup>2</sup> / 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**

|                                |                                              |
|--------------------------------|----------------------------------------------|
| <b>Supply</b>                  |                                              |
| 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**

|                                                |                         |
|------------------------------------------------|-------------------------|
| <b>Display</b>                                 |                         |
| 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 |