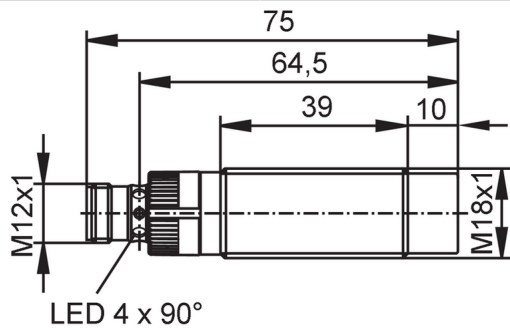




Compact evaluation unit for speed monitoring

DGA4012-WRKG/IO/US



| Product characteristics                         |      |                                                                                 |
|-------------------------------------------------|------|---------------------------------------------------------------------------------|
| Electrical design                               |      | PNP/NPN; (configurable)                                                         |
| Output function                                 |      | normally open / closed; (configurable)                                          |
| Sensing range                                   | [mm] | 12                                                                              |
| Communication interface                         |      | IO-Link                                                                         |
| Housing                                         |      | Threaded type                                                                   |
| Dimensions                                      | [mm] | M18 x 1 / L = 75                                                                |
| Application                                     |      |                                                                                 |
| Special feature                                 |      | gold-plated contacts                                                            |
| Application                                     |      | evaluation of rotating and linear movements with regard to underspeed; blocking |
| Electrical data                                 |      |                                                                                 |
| Operating voltage                               | [V]  | 10...30 DC                                                                      |
| Current consumption                             | [mA] | < 15                                                                            |
| Protection class                                |      | II                                                                              |
| Reverse polarity protection                     |      | yes                                                                             |
| Outputs                                         |      |                                                                                 |
| Electrical design                               |      | PNP/NPN; (configurable)                                                         |
| Output function                                 |      | normally open / closed; (configurable)                                          |
| Max. voltage drop switching output DC           | [V]  | 2.5                                                                             |
| Factory setting                                 |      | Electrical design: PNP                                                          |
|                                                 |      | Output function: normally open                                                  |
|                                                 |      | Set point: 100 Imp/min                                                          |
|                                                 |      | Output OUT2: Pulse output                                                       |
| Short-circuit protection                        |      | yes                                                                             |
| Overload protection                             |      | yes                                                                             |
| Switching output (OUT1)                         |      |                                                                                 |
| Output signal                                   |      | switching signal                                                                |
| Permanent current rating of switching output DC | [mA] | 250                                                                             |
| Pulse output / Switching output (OUT2)          |      |                                                                                 |
| Output signal                                   |      | pulse signal; switching signal; (configurable)                                  |
| Permanent current rating of switching output DC | [mA] | 100                                                                             |



## Compact evaluation unit for speed monitoring

DGA4012-WRKG/IO/US

|                                 |                              |                                                                                                  |
|---------------------------------|------------------------------|--------------------------------------------------------------------------------------------------|
| Switching frequency DC          | [Hz]                         | < 500                                                                                            |
| Pulse output                    |                              | external evaluation of the damping pulses                                                        |
| <b>Monitoring range</b>         |                              |                                                                                                  |
| Sensing range                   | [mm]                         | 12                                                                                               |
| <b>Measuring/setting range</b>  |                              |                                                                                                  |
| Measuring range                 | [Imp/min]                    | 1...32000                                                                                        |
| Setting range                   | [Imp/min]                    | 3...24000                                                                                        |
| Measuring principle             |                              | inductive                                                                                        |
| <b>Accuracy / deviations</b>    |                              |                                                                                                  |
| Correction factor               |                              | stainless steel: 0.7 / brass: 0.5 / aluminum: 0.5 / copper: 0.4                                  |
| Hysteresis                      | [% of Sr]                    | 10                                                                                               |
| Hysteresis                      | [% of Sp]                    | 10...30                                                                                          |
| Repeatability IO-Link           | [%]                          | 1; (of the final value of the measuring range)                                                   |
| Temperature drift               |                              | ± 10 %; (of the final value of the measuring range)                                              |
| <b>Reaction times</b>           |                              |                                                                                                  |
| Start-up delay                  | [s]                          | 0...15; (In steps of: 1 s; default: 10 s)                                                        |
| Max. damping frequency          | [Imp/min]                    | 60000                                                                                            |
| <b>IO-Link</b>                  |                              |                                                                                                  |
| Start-up delay                  | [s]                          | 0...30; (In steps of: 100 ms; default: 10 s)                                                     |
| <b>Interfaces</b>               |                              |                                                                                                  |
| Communication interface         |                              | IO-Link                                                                                          |
| Transmission type               |                              | COM2 (38,4 kBaud)                                                                                |
| IO-Link revision                |                              | 1.1                                                                                              |
| SDCI standard                   |                              | IEC 61131-9                                                                                      |
| Profiles                        | Smart Sensor - SSP 4.2.1     | Measuring and Switching Sensor, high resolution, 1 channel                                       |
|                                 | Common - I&D                 | Identification and Diagnosis                                                                     |
|                                 | Function                     | Locator                                                                                          |
|                                 | Function                     | ProductURI                                                                                       |
| SIO mode                        |                              | yes                                                                                              |
| Required master port class      |                              | A                                                                                                |
| Min. process cycle time         | [ms]                         | 3.7                                                                                              |
| IO-Link process data (cyclical) | <b>Function</b>              | <b>bit length</b>                                                                                |
|                                 | process value                | 32                                                                                               |
|                                 | device status                | 4                                                                                                |
|                                 | binary switching information | 2                                                                                                |
| IO-Link functions (acyclical)   |                              | switch-on cycle counter; operating hours counter; internal temperature; application specific tag |
| Supported DeviceIDs             | <b>Type of operation</b>     | <b>DeviceID</b>                                                                                  |
|                                 | default                      | 1444                                                                                             |
| Note                            |                              | For further information please see the IODD PDF file at "Downloads"                              |
| <b>Operating conditions</b>     |                              |                                                                                                  |
| Ambient temperature             | [°C]                         | -25...85                                                                                         |
| Protection                      |                              | IP 65; IP 66; IP 67; IP 68; IP 69K                                                               |

# DI6004



## Compact evaluation unit for speed monitoring

DGA4012-WRKG/IO/US

| Tests / approvals                                       |                           |                                                                                                                             |
|---------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| EMC                                                     | EN 61000-4-2 ESD          | 4 kV CD / 8 kV AD                                                                                                           |
|                                                         | EN 61000-4-3 HF radiated  | 10 V/m                                                                                                                      |
|                                                         | EN 61000-4-4 Burst        | 2 kV                                                                                                                        |
|                                                         | EN 61000-4-6 HF conducted | 10 V                                                                                                                        |
|                                                         | EN55011                   | class B                                                                                                                     |
| Vibration resistance                                    | EN 60068-2-6 Fc           | 20 g (10...3000 Hz)<br>50 sweep cycles per frequency; 1 octave per minute in 3 axes                                         |
| Shock resistance                                        | EN 60068-2-27 Ea          | 100 g 11 ms half-sine; 3 shocks each in every direction of the 3 coordinate axes                                            |
| Continuous shock resistance                             | EN 60068-2-27             | 40 g 6 ms; 4000 shocks each in every direction of the 3 coordinate axes                                                     |
| Fast temperature changes                                | EN 60068-2-14 Na          | TA = -25°C; TB = 80°C; t1 = 30 min; t2 = <10 s 50 cycles                                                                    |
| Salt spray test                                         | EN 60068-2-52 Kb          | severity level 5 (4 test cycles)                                                                                            |
| MTTF [years]                                            |                           | 467                                                                                                                         |
| UL approval                                             | Ta                        | -25...70 °C                                                                                                                 |
|                                                         | Enclosure type            | Type 1                                                                                                                      |
|                                                         | voltage supply            | Limited Voltage/Current                                                                                                     |
|                                                         | UL approval number        | A041                                                                                                                        |
|                                                         | File number UL            | E174191                                                                                                                     |
| Mechanical data                                         |                           |                                                                                                                             |
| Weight [g]                                              |                           | 52.8                                                                                                                        |
| Housing                                                 |                           | Threaded type                                                                                                               |
| Mounting                                                |                           | non-flush mountable                                                                                                         |
| Dimensions [mm]                                         |                           | M18 x 1 / L = 75                                                                                                            |
| Thread designation                                      |                           | M18 x 1                                                                                                                     |
| Material                                                |                           | housing: stainless steel (1.4404 / 316L); sensing face: PBT;<br>LED window: PEI; lock nuts: stainless steel (1.4404 / 316L) |
| Tightening torque [Nm]                                  |                           | 35                                                                                                                          |
| Displays / operating elements                           |                           |                                                                                                                             |
| Display                                                 | Power                     | 4 x LED, green                                                                                                              |
|                                                         | Switching output          | 4x LED, yellow                                                                                                              |
|                                                         | Error message             | 4x LED, red                                                                                                                 |
| Accessories                                             |                           |                                                                                                                             |
| Items supplied                                          |                           | lock nuts: 2                                                                                                                |
| Remarks                                                 |                           |                                                                                                                             |
| Pack quantity                                           |                           | 1 pcs.                                                                                                                      |
| Electrical connection                                   |                           |                                                                                                                             |
| Connector: 1 x M12; coding: A; Contacts: 4, gold-plated |                           |                                                                                                                             |
|                                                         |                           |                                                                                                                             |

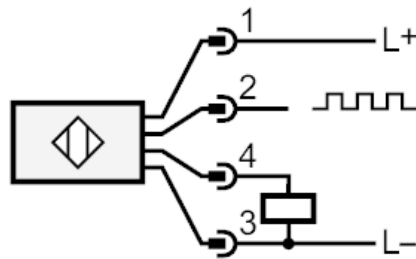
# DI6004



## Compact evaluation unit for speed monitoring

DGA4012-WRKG/IO/US

### Connection



|    |                                      |
|----|--------------------------------------|
| 1: | L+                                   |
| 2: | OUT2 Pulse output / Switching output |
| 3: | L-                                   |
| 4: | OUT1 IO-Link / Switching output      |