

Overview SIL devices



| Measuring principle / Function | Device family | Electronics version | Safety function | Assessment type *) | SIL (single channel) | SIL (multiple channel) | Device type | SFF | HFT | λ_{Du} (FIT) | Safety Manual | |
|--|--|---|--|---------------------|----------------------|------------------------|--------------------|-------|-------|------------------------------|---------------------------------------|---------------------------------------|
| Point level | | | | | | | | | | | | |
| Vibration | VEGASWING 61, 63 | Contactless electronic switch | Point level MIN/MAX | FMEDA | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 34 FIT | DE EN | |
| | | Relay (DPDT) | Point level MIN/MAX | FMEDA | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 32 FIT | DE EN | |
| | | Transistor (NPN/PNP) | Point level MIN/MAX | FMEDA | FMEDA | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 30 FIT | DE EN |
| | | Two-wire (8/16 mA) | Point level MIN/MAX | FMEDA | FMEDA | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 35 FIT | DE EN |
| | | NAMUR-Signal | Point level MIN/MAX | FMEDA | FMEDA | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 45 FIT | DE EN |
| | VEGASWING 66 | Relay (2 x SPDT) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 36 FIT | DE EN |
| | | Transistor (NPN/PNP) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 31 FIT | DE EN |
| | | Two-wire (8/16 mA) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 29 FIT | DE EN |
| | VEGAVIB 61, 62, 63 | Contactless electronic switch | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 56 FIT | DE EN |
| | | Relay (DPDT) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 37 FIT | DE EN |
| | | Transistor (NPN/PNP) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 40 FIT | DE EN |
| | | Two-wire (8/16 mA) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 43 FIT | DE EN |
| | | NAMUR-Signal | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 52 FIT | DE EN |
| | VEGAWAVE 61, 62, 63 | Contactless electronic switch | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 56 FIT | DE EN |
| | | Relay (DPDT) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 37 FIT | DE EN |
| | | Transistor (NPN/PNP) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 40 FIT | DE EN |
| | | Two-wire (8/16 mA) | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 43 FIT | DE EN |
| | | NAMUR-Signal | Point level MIN/MAX | Full assessment | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 52 FIT | DE EN |
| | Capacitive | VEGACAP 62 - 66, 69 | Relay (DPDT) | Point level MIN/MAX | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 54 FIT | DE EN |
| | | | Transistor (NPN/PNP) | Point level MIN/MAX | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 35 FIT | DE EN |
| Two-wire for connection to VEGATOR 14x | | | Point level MIN/MAX | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 40 FIT | DE EN | |
| Radiation-based | POINTRAC 31 | Four-wire 8/16 mA/HART with SIL qualification | Point level MIN/MAX Relais oder 8/16 mA | Full assessment | SIL 2 | SIL 3 (divers) | B | > 90% | 0 | 125 FIT | DE EN | |
| | MINITRAC 31, 32 SOLITRAC 31 FIBERTRAC 31, 32 | Four-wire 4...20 mA/HART with SIL qualification | Point level MIN/MAX Relais oder 8/16 mA oder 4...20 mA | Full assessment | SIL 2 | SIL 3 (divers) | B | > 90% | 0 | 125 FIT | DE EN | |
| | SOLITRAC 31 FIBERTRAC 31, 32 | Four-wire 4...20 mA/HART with SIL qualification | Point level MIN/MAX 4...20 mA mit einem Slave | Full assessment | SIL 2 | SIL 3 (divers) | B | > 90% | 0 | 245 FIT | DE EN | |
| Level | | | | | | | | | | | | |
| Radar | VEGAPULS 6X Hardwareversion = 1.1.0 Softwareversion = 1.1.0 | Two-wire 4...20 mA/HART | Level MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 44 FIT | DE EN | |
| | VEGAPULS 61 – 68 plics Hardwareversion ≤ 1.10 Softwareversion ≤ 3.90 | Two-wire 4...20 mA/HART | Level MIN/MAX/Range | PIU | SIL 2 | SIL 3 (divers) | B | 81% | 0 | 358 FIT | DE EN | |
| TDR – Guided Radar | VEGAFLEX Serie 80 | Two-wire 4...20 mA/HART with SIL qualification | Level MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 158 FIT | DE EN | |
| Ultrasonic | VEGASON 61 – 63 | Two-wire 4...20 mA/HART | Level MIN/MAX/Range | PIU | SIL 2 | SIL 3 (divers) | B | 85% | 0 | 193 FIT | DE EN | |
| Capacitive | VEGACAL 62 – 66, 69 | Two-wire 4...20 mA/HART | Level MIN/MAX/Range | PIU | SIL 2 | SIL 3 (divers) | B | 76% | 0 | 208 FIT | DE EN | |
| Radiation-based | MINITRAC 31, 32 SOLITRAC 31 FIBERTRAC 31, 32 | Four-wire 4...20 mA/HART with SIL qualification | Level MIN/MAX/Range 4...20 mA | Full assessment | SIL 2 | SIL 3 (divers) | B | > 90% | 0 | 154 FIT | DE EN | |
| | SOLITRAC 31 FIBERTRAC 31, 32 | Four-wire 4...20 mA/HART with SIL qualification | Level MIN/MAX/Range 4...20 mA mit einem Slave | Full assessment | SIL 2 | SIL 3 (divers) | B | > 90% | 0 | 302 FIT | DE EN | |
| Pressure | | | | | | | | | | | | |
| Process pressure / Hydrostatic | VEGABAR 82, 83, 86, 87 | Two-wire 4...20 mA/HART with SIL qualification | MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 44 FIT | DE EN | |
| | VEGABAR 81 | Two-wire 4...20 mA/HART with SIL qualification | MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 77 FIT | DE EN | |
| Electronic differential pressure | VEGABAR 82, 83, 86, 87 | Two-wire 4...20 mA/HART with SIL qualification | MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 63 FIT | DE EN | |
| | VEGABAR 81 | Two-wire 4...20 mA/HART with SIL qualification | MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 132 FIT | DE EN | |
| Differential pressure | VEGADIF 85 | Two-wire 4...20 mA/HART with SIL qualification | MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | B | > 90% | 0 | 47 FIT 115 FIT 183 FIT | DE EN | |

Overview SIL devices



| Measuring principle / Function | Device family | Electronics version | Safety function | Assessment type *) | SIL (single channel) | SIL (multiple channel) | Device type | SFF | HFT | λ_{DU} (FIT) | Safety Manual |
|---------------------------------------|--------------------|---|---------------------|--------------------|----------------------|------------------------|-------------|-------|-----|----------------------|---------------------------------------|
| Signal conditioning | | | | | | | | | | | |
| Signal conditioning instruments | VEGATOR 11x | IN: NAMUR-Signal OUT: Relay | Point level MIN/MAX | Full assessment | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 46 FIT | DE EN |
| | VEGATOR 12x | IN: Two-wire 8/16 mA OUT: Relay | Point level MIN/MAX | Full assessment | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 49 FIT | DE EN |
| | VEGATOR 14x | IN: Two-wire 4...20 mA OUT: Relay | Level MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 76 FIT | DE EN |
| | VEGAMET 381 | IN: Two-wire 4...20 mA OUT: Relay | Level MIN/MAX/Range | PIU | SIL 2 | SIL 3 (divers) | B | 84% | 0 | 79 FIT | DE EN |
| | VEGAMET 391 SIL | IN: Two-wire 4...20 mA OUT: Relay | Level MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (divers) | B | > 90% | 0 | 24 FIT | DE EN |
| Protective and separating instruments | VEGATRENN 149A | Two-wire 4...20 mA power supply | Point level MIN/MAX | PIU | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 63 FIT | DE EN |
| | VEGATRENN 14x | Two-wire 4...20 mA power supply (activ) | Level MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 43 FIT | DE EN |
| | VEGATRENN 15x | Two-wire 4...20 mA separator (passive) | Level MIN/MAX/Range | Full assessment | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 9 FIT | DE EN |
| Overvoltage protection | B62-36 G | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |
| | B63-48 G, B63-48 N | --- | --- | FMEDA | SIL 2 | SIL 3 (homogenous) | A | > 60% | 0 | 4 FIT | DE EN |
| | B81-35 | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |
| Indicating instruments | PLICSCOM | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |
| | VEGADIS 81 | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |
| | VEGADIS 82 | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |
| | VEGADIS 176 | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |
| Components | VEGACONNECT | --- | --- | non-reactive | --- | --- | --- | --- | --- | --- | DE EN |

The values stated above are only valid if the conditions/prerequisites in the corresponding safety manuals are fulfilled.

*) Assessment type:
 PiU proven in use
 FMEDA based on Failure Mode Effects and Diagnostic Analysis
 Full assessment developed according to IEC 61508
 non-reactive device does not change the loop current and may be used in safety-related applications