| Features       Summer of the second distance through PTFE coated transducer surface       Summer of sensors       Summer of sensors       Summer of sensors       Summer of sensors       Summer of sensors <ul> <li>1 switch output</li> <li>1 evel</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output</li> <li>1 evel ing output 5 ensors</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output</li> <li>1 evel ing output 4 20 mA</li> <li>1 switch output PNP. NO (NC contact program be accuracy ± 9 mm</li> <li>0 output type</li> <li>1 evel ing output 4 20 mA (accuracy ± 9 mm</li> <li>2 output setting ± 0 mm (programmable)</li> <li>1 output peak accuracy ± 1 mm</li> <li>1 evel ing output 4 20 mA (accuracy ± 0 mm)</li> <li>2 output type</li> <li>1 our output 4 20 mA (accuracy ± 0 mm)</li> <li>2 output type</li> <li>1 our output 4 20 mA (accuracy ± 0 mm)</li> <li>2 output type</li> <li>1 output 4 20 mA (accuracy ± 0 mm)</li> <li>2 output type</li> <li>1 output 4 20 mA (accuracy ± 0 mm)</li> <li>2 output 4 evel metric transducer</li> <li>2 output 5 evel water transducer</li> <li>2 output 2 evel water transducer</li> <li></li></ul>  |                                   | Technical data   |   |  |
|---|-----------------------------------|--|---|--|
| <ul> <li>Sensing large 300. e000 mm</li> <li>400. e000 mm</li> <li>420 mm</li> <li>4100 mm x100 mm</li>     &lt;</ul>   |                                   | General specifications   |   |  |
| <ul> <li>Unisable area</li> <li>Unisabl</li></ul>   | A CONTRACTOR                      | •  | 350 6000 mm   |  |
| Sindard target pials<br>approx. 80 VHZ<br>Sequency<br>Response delay<br>Sequency<br>Response delay<br>Sequency<br>Response delay<br>Sequency<br>Response delay<br>Sequency<br>Response delay<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequency<br>Sequenc |                                   | Adjustment range   | 400 6000 mm   |  |
| Transductor frequency <ul> <li></li></ul>   |                                   |  |   |  |
| <ul> <li>Response delay</li> <li>Serrer me</li> <li>Sererer me</li> <li>Serrer me</li></ul>   |                                   |  |   |  |
| Nominal reating:       5 ± 1.5 % of full-scale value         Image: Solution of the solutio   |                                   |  |   |  |
| <ul> <li>Temperature and the second state state of the second state state of the second state sta</li></ul>   |                                   |  | 2273113   |  |
| Linit data  |                                   |  | $\leq \pm 1.5$ % of full-scale value                        |  |
| Permissible cable length max. 300 m  Permissibl   |                                   |  | ≤ 300 ms  |  |
| <ul> <li>Indicator soperating means</li> <li>LED yellow</li> <li>yellow. object in evaluation range green: Teach-h synchronization range green: Teach-h</li> <li>Model Number</li> <li>UCC6000-30GH70-IE2R2-V15</li> <li>Ultrasonic direct detection sensor</li> <li>Features</li> <li>Alied operating voltage U<sub>0</sub></li> <li>24 V DC</li> <li>Operating voltage U<sub>0</sub></li> <li>25 D m A</li> <li>Teach-h synchronization connection, bidirectional (Face yperation of the synchronized mode )/ Teach-in input</li> <li>Input/output type</li> <li>type output 4 20 mA</li> <li>twitch output</li> <li>Synchronization options</li> <li>Synchronization options</li> <li>Synchronization options</li> <li>Synchronization options</li> <li>Synchronization options</li> <li>Synchronization options</li> <li>Can be parameterized via the ULT-<br/>frace (accessories)</li> <li>Diagrams</li> </ul> aracteristic response curve <ul> <li>w<sup>1</sup>/<sup>1</sup></li> <li>Ultrastic response curve</li> <li>w<sup>1</sup>/<sup>1</sup></li> <li>Unitediate string</li> <li>transition to the synchronization options</li> <li>Can be parameterized via the ULT-<br/>frace (accessories)</li> <li>Diagrams</li> </ul> aracteristic response curve <ul> <li>w<sup>1</sup></li> <li>Ultrastic response curve</li> <li>w<sup>2</sup></li> <li>W<sup>1</sup></li> <li>Unitediate string</li> <li>Son and the synchronization to the synchronization to the synchronized mode )/ Teach-in input 4 20 mA, ascending/descen proparamable</li> <li>Strictling to the synchronized mode (Si Si O)</li> <li>Son and an anticolity option</li> <li>Son anticolity</li></ul>  |                                   |  |   |  |
| LED geen/yellow willow: object in evaluation carging green: Teach-In green: T   |                                   | 0  | max. 300 m  |  |
| LED green/yellow green: Teach-In green: Teach Green:  |                                   |  | switching state switch output                               |  |
| C €       S €       Potentiometer       synchronization connection         Model Number       24 ∨ DC       20 30 ∨ DC (including ripple)         Model Number       20 30 ∨ DC (including ripple)       Rated operating voltage U <sub>0</sub> 20 30 ∨ DC         UIC6000-30GH70-IE2R2-V15       UItrasonic direct detection sensor       Infrared       Infrared         Features       Infrared       Infrared       Infrared         • High chemical resistance through       1 switch output       1 switch output       1 switch output         • Temperature compensation       Synchronization connection timpedance       1 switch output PNP, NO (NC contact program Default setting       40 6000 mn (adjustable via potentiometer software and interface (spee         Diagrams       arm       0 output type       1 switch output PNP, NO (NC contact program Default setting       40 800 mn (adjustable via potentiometer software and interface (spee software and interface (sp   |                                   |  |   |  |
| A y UC       24 Y DC         Model Number       Rate depending voltage U <sub>g</sub> 20 30 V DC (including ripple)         With the depending voltage U <sub>g</sub> 20 30 V DC (including ripple)         Ripple       ≤10 %         Volced supply current U <sub>g</sub> ≤50 mA         Interface type       Infrared         Input impedance       type for the depending voltage U <sub>k</sub> I switch output 4       20 mA         I switch output 4       20 mA         I switch output 4       Siteling the depending voltage U <sub>k</sub> I switch output 1       Switching proving and the ULT-<br>face (accessories)         Diagrams       Gornal parameterized via the ULT-<br>face (accessories)         Diagrams       Output type       I switch output 4 20 mA, ascending/descen<br>proving annable         Voltage deph       < 3.V         Output type       I current output 4 20 mA, ascending/descen<br>proving annable         Installation position       Sing glog voltage via the dephone via the dephone via the dephone vis the depho   |                                   | с, ,   |   |  |
| Analog output 4 20 mA       Switching output 4       30 mA       Switching output 4         • High chemical resistance through PTE coated transducer surface       Instrace type       Instrace type       Instrace type         • Analog output 4 20 mA       0 evel       ≤ 3 V       Instrace type       Instrace type         • Temperature compensation       Synchronization options       • Southing frequency       1 switch output       Switching output 4       20 mA         • Temperature compensation       • Synchronization options       • Southing type       1 switch output 7       Switching output 4       30 mA       Switching output 4       30 mA       Switching output 4       Switching output 4       Switching frequency       Switching output 4       Switching frequency       <  | CE (SP ∘ c(VL)us                  |  | switch output adjustable                                    |  |
| Model Number       2030 V DC (including ripple)         Ripple       ≤ 10 %         Wooled supply current l <sub>0</sub> ≤ 50 mA         Interface       point-to-point connection         High chemical resistance through pTFE coated transducer surface       point-to-point connection         PTFE coated transducer surface       the switch output         1 switch output       1 switch output         5 Synchronization compensation       Switching output         Synchronization options       Switching output         Can be parameterized via the ULT-<br>face (accessories)       Switching output         Diagrams       aracteristic response curve         aracteristic response curve       converting         world       1 switch output         0 level acting       10 (avel acting)         0 devel acting       20 (avel acting)         0 devel acting       20 (avel acting)         0 devel acting       20 mA         0 devel acting adupt       0 (avel acting)         0 devel acting adupt       1 switch output         0 devel acting       20 mA         1 switch output       1 switch output         1 darget       20 mA         0 darget       20 mA         0 darget       20 mA  |                                   |  | 24 1/ DC  |  |
| Model Number       Ripple       ≤ 10 %,         No-dad supply current l₀       ≤ 50 mA         UCC6000-30GH70-IE2R2-V15       Interface       Interface         Ultrasonic direct detection sensor       Interface type       Interface         Features       1 synchronization connection, bidirectional (Fac<br>synchronization connection)         1 switch output 4 20 mA       Switching output 4 20 mA         • 1 switch output 4 20 mA       Switching output<br>1 Level       1 switch output PNP, NO (NC contact program<br>Default setting         • 1 switch output 4 20 mA       Switching frequency       400 6000 mm (adjustable via potentiometer<br>Repeat accuracy         • 1 switch output 5       300 mA, short-circuit/vowfoad protected         Switching frequency       ≤ 1 µA         Analog output<br>1 accreation       500 Ω         • 1 duar resistor       ≤ 500 Ω         • 1 duar resistor       500 Ω         • 1 duarent output 4   |                                   |  |   |  |
| Model Number       No-load supply current l <sub>0</sub> ≤ 50 mA         UCC6000-30GH70-IE2R2-V15       Interface       Interface         Ultrasonic direct detection sensor       Interface type       Inferred         Fiedtures       olitho-point connection       Imput/output         • High chemical resistance through pTFE coated transducer surface       type       ≤ 3 V         • Level       ≤ 3 V       1 Level       ≤ 3 V         • Level       ≤ 3 V       1 Level       ≤ 3 V         • Temperature compensation       Switching output       > 900 mm (adjustable via potentizering 400 °600 mm (adjustable via potentizering 400 °600 mm (adjustable via potentizering 400 °600 mm (programmable °)         Operating output       - 20 mm (programmable °)       > 0100 mm (programmable °)         Otage drip       ≤ 3 V       1 Hz         Otage drip       ≤ 3 V       1 Hz         Orderating trauspace       0 mm (programmable °)       > 0100 mm (programmable °)         Output type       1 switch output       - 200 mm (adjustable via potentizering fragmable °)         Output type       1 switch output       - 200 mm (programmable °)         Output type       1 current output 4 20 mA , ascending/descen programmable °)         Output type       1 current output 4 20 mA , ascending/descen programmable °)   |                                   |  |   |  |
| UCC6000-30GH70-IE2R2-V15<br>Ultrasonic direct detection sensor<br>Features<br>• High chemical resistance through<br>pTFE coated transducer surface<br>• Analog output 4 20 mA<br>• 1 switch output<br>• Temperature compensation<br>• Synchronization options<br>• Synchronization options<br>• Can be parameterized via the ULT<br>RA-PROCI-RI software and inter-<br>face (accessories)<br>Diagrams<br>aracteristic response curve<br>av <sup>1</sup> m <sup>2</sup><br>• Level<br>• Level<br>• Surding requency<br>• 1 witch output<br>• Temperature compensation<br>• Synchronization options<br>• Synchronization options<br>• Can be parameterized via the ULT<br>RA-PROCI-RI software and inter-<br>face (accessories)<br>Diagrams<br>aracteristic response curve<br>av <sup>1</sup> m <sup>2</sup><br>• Level<br>• Level<br>• Default setting<br>• Content of sensors<br>• Sinch in the ULT<br>RA-PROCI-RI software and inter-<br>face (accessories)<br>Diagrams<br>aracteristic response curve<br>av <sup>1</sup> m <sup>2</sup><br>• Level<br>• Level<br>• Consection software and inter-<br>face (accessories)<br>Diagrams<br>aracteristic response curve<br>• av <sup>1</sup> m <sup>2</sup><br>• Level<br>• Level<br>• Level<br>• Consection software and inter-<br>face (accessories)<br>Diagrams<br>aracteristic response curve<br>• av <sup>1</sup> m <sup>2</sup><br>• Level<br>• Level<br>• Level<br>• Level<br>• Level<br>• Connection software<br>• Default setting<br>• Connection software<br>• Connection software   | odel Number                       |  | ≤ 50 mA   |  |
| Witrasonic direct detection sensor         Features         • High chemical resistance through<br>PTFE coated transducer surface         • Analog output 4 20 mA         • 1 switch output         • 2 an be parameterized via the ULT-<br>RA-PROG-R software and inter-<br>face (accessories)         • Diagrams         aracteristic response curve         • w <sup>1</sup> imit         • 1 switch output type         • 0 upt type  |                                   |  |   |  |
| Ultrasonic direct detection sensor Features Features Hiph chemical resistance through PTFE coated transducer surface Analog output 4 20 mA I switch output Temperature compensation Synchronization options Synchronization options Synchronization options Synchronization options Can be parameterized via the ULT- RA-PROCAIR software and inter- face (accessories) Diagrams aracteristic response curve Utype Default setting Construction type Default setting Construction type Default setting Construction type Default setting Construction type Construc   | C6000-30GH70-IE2R2-V15            |  |   |  |
| Features       1 synchronization connection, bidirectional (Fac<br>synchronization connection) (Fac<br>synchronization) (Fac<br>synchronization) (Fac<br>synchronization) (Fac<br>synchronization) (Fac<br>synchronization) (Fac<br>synchroni   | rasonic direct detection sensor   |  | point-to-point connection                                   |  |
| Features       0 Level       ≤ 3 V         • High chemical resistance through<br>PTFE coated transducer surface       ≤ 15 V         • Analog output 4 20 mA       > 1 switch output         • Temperature compensation       > Synchronization options         • Can be parameterized via the ULT-<br>RA-PROG-IR software and inter-<br>race (accessories)       0 Gevel       ≤ 3 V         • Diagrams       0 Joint 100 mm       2 0 Joint 100 mm       300 mm (adjustable via potentioneter<br>± 9 mm         • Operating current IL<br>Switching hysteresis       60 mm (programmable)       Voltage dropp       ≤ 14 kz         • Object       ≤ 10 JuA       Analog output       00 mm (adjustable via potentioneter<br>± 9 mm       00 operating current IL<br>300 mm (adjustable via potentioneter<br>± 9 mm         • Operating current IL<br>acce (accessories)       300 mm (adjustable via potentioneter<br>± 9 mm       00 operating current IL<br>300 mm (adjustable via potentioneter<br>± 9 mm         • Operating current IL<br>accessories)       300 mm (adjustable via potentioneter<br>± 9 mm       0 operating current IL<br>300 mm (adjustable via potentioneter<br>± 9 mm         • Operating current IL<br>accessories)       300 mm (adjustable via potentioneter<br>± 9 mm       10 mm (adjustable via potentioneter<br>± 9 mm         • Operating current IL<br>accessories)       0 mm (adjustable via potentioneter<br>± 9 mm       10 mm (adjustable via potentioneter<br>± 9 mm         • Diagrams       aracceristic response curve       10 mm   |                                   |  | 1 synchronization connection, bidirectional (Factory settir |  |
| <ul> <li>High chemical resistance through pTFE coated transfucer surface</li> <li>Analog output 4 20 mA</li> <li>1 switch output</li> <li>2 can be parameterized via the ULT-RA-PROG-IR software and interface (accessories)</li> <li>Can be parameterized via the ULT-RA-PROG-IR software and interface (accessories)</li> <li>2 can be parameterized via the ULT-RA-PROG-IR software and interface (accessories)</li> <li>2 Diagrams</li> <li>2 Diagrams</li> <li>2 aracteristic response curve</li> <li>aracteristic response curve</li> <li>aracteristic response curve</li> <li>aracteristic response curve</li> <li>ara final diagrams</li> <li>2 aracteristic stance</li> <li>a too soo soo 400 soo soo too too boo boo soo too soo 400 soo soo 400 soo soo too too boo soo 400 soo soo soo 400 soo soo soo 400 soo soo soo 400 soo soo soo 400 soo soo soo 400 soo soo 400 soo soo 400 soo soo 400 soo soo soo soo 400 soo soo</li></ul>  | atures                            |  | synchronized mode ) / Teach-In input                        |  |
| PTFE coated transducer surface       1 put impedance       typ. 900 Ω         Analog output 4 20 mA       Number of sensors       max. 10         I switch output       Output type       1 switch output PNP, NO ( NC contact program down ( adjustable via potentiometer as youth output Sensors)         Synchronization options       Synchronization options       9 mm         Can be parameterized via the ULT-racPROGOLB software and interface (accessories)       Switching frequency       ≤ 1 Hz         Diagrams       aracteristic response curve       Switching hysteresis       60 mm (programmable)         Output type       1 current output 4 20 mA, ascending/descen programmable         Viral       Output type       1 current output 4 20 mA, ascending/descen programmable         Voltage drop       ≤ 3 V         Output type       1 current output 4 20 mA, ascending/descen programmable         Voltage drop       ≤ 500 Ω         Ambient conditions       Ambient conditions         Ambient conditions       Connector M12 x 1, 5pin         Ambient conditions       Connector M12 x 1, 5pin         Y ford       Yietain resistance       30 g, 11 ms period         Vibration resistance       20 g       Connector M12 x 1, 5pin         Protection degree       IP65       Mass       280 g         Conn   | High chemical resistance through  |  |   |  |
| <ul> <li>Analog output 4 20 mA</li> <li>1 switch output</li> <li>Temperature compensation</li> <li>Synchronization options</li> <li>Can be parameterized via the ULT-<br/>RA-PROG-IR software and inter-<br/>face (accessories)</li> <li>Can be parameterized via the ULT-<br/>RA-PROG-IR software and inter-<br/>face (accessories)</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Diagrams</li> <li>Temperature component in the state current 1,<br/>Switching hysteresis</li> <li>Output type</li> <li>1 current output 4 20 mA, ascending/descen<br/>programmable</li> <li>Default setting</li> <li>Terment output 4 20 mA, ascending/descen<br/>programmable</li> <li>Default setting</li> <li>Terment output 4 20 mA, ascending/descen<br/>programmable</li> <li>Default setting</li> <li>rising slope ; evaluation limit A1: 400 mm ; eval<br/>A2: 6000 mm</li> <li>Load resistor</li> <li>Storage temperature</li> <li>-40 55 Hz, Amplitude ± 1 mm</li> <li>Meterial engree</li> <li>Storage temperature</li> <li>-40 55 Hz, Amplitude ± 1 mm</li> <li>Meterial engree</li> <li>Storage temperature</li> <li>-40 55 Hz, Amplitude ± 1 mm</li> <li>Meterial engree</li> <li>-50 55 Hz, Amplitude ± 1 mm</li> <li>Meterial</li> <li>Housing</li> <li>High grade stainless steel</li> <li>Transducer</li> <li>PTFE coated; epoxy resin/hollow glass sphere<br/>polynethane feam</li> <li>Housing</li> <li>High grade stainless steel</li> <li>Standard conformity</li> <li>Standard confor</li></ul>  | PTFE coated transducer surface    |  |   |  |
| I switch output         i switch output         Switching output         Temperature compensation         Synchronization options         Can be parameterized via the ULT-<br>RA-PROG-IR software and inter-<br>face (accessories)         Diagrams         aracteristic response curve         av <sup>1</sup> (m)            • fing slope ; evaluation limit A1: 400 mm ; evaluation lim   |                                   | · ·  |   |  |
| <ul> <li>1 switch output</li> <li>1 switch output</li> <li>Temperature compensation</li> <li>Synchronization options</li> <li>Can be parameterized via the ULT-<br/>RA-PROFO-IR software and inter-<br/>face (accessories)</li> <li>Can be parameterized via the ULT-<br/>RA-PROFO-IR software and inter-<br/>face (accessories)</li> <li>Diagrams</li> <li>aracteristic response curve</li> <li>Switching frequency</li> <li>I current output 4 20 mA, ascending/descen<br/>programmable</li> <li>Default setting</li> <li>Output type</li> <li>1 current output 4 20 mA, ascending/descen<br/>programmable</li> <li>Default setting</li> <li>Default setting</li> <li>Sitting frequency</li> <li>Sitting frequency</li> <li>Consector (ST)</li> <li>Default setting</li> <li>Default setting</li> <li>Consector (ST)</li> <li>Default setting</li> <li>Consector (ST)</li> <li>Default setting</li> <li>Consector (ST)</li> <li>Shock resistance</li> <li>Sog g, 11 ms period</li> <li>Vioration resistance</li> <li>Sog g, 11 ms period</li> <li>Vioration resistance</li> <li>Sog g, 11 ms period</li> <li>Vioration resistance</li> <li>Sock resistance<!--</td--><td>Analog output 4 20 mA</td><td></td><td>max to</td></li></ul>   | Analog output 4 20 mA             |  | max to  |  |
| <ul> <li>Pemperature compensation</li> <li>Synchronization options</li> <li>Can be parameterized via the ULT-<br/>RA-PROCI-R software and interface (accessories)</li> <li>Diagrams</li> <li>Tarastocer</li> <li>Diagrams</li> <li>Diagrams<td></td><td></td><td>1 switch output PNP, NO ( NC contact programmable )</td></li></ul>   |                                   |  | 1 switch output PNP, NO ( NC contact programmable )         |  |
| <ul> <li>Synchronization options</li> <li>Can be parameterized via the ULT-<br/>RA-PROG-IR software and inter-<br/>face (accessories)</li> <li>Diagrams</li> <li>aracteristic response curve</li> <li>avioning hysteresis</li> <li>Default setting</li> <li>Default setting</li> <li>Default setting</li> <li>Load resistor</li> <li>Solo Ω</li> <li>Ambient temperature</li> <li>-40 55 Hz , Amplitude ± 1 mm</li> <li>Mechanical specifications</li> <li>Onector hype</li> <li>Competing curve this standards and<br/>direction degree</li> <li>If a grade stainless steel</li> <li>Transducer</li> <li>Diffection degree</li> <li>If a grade stainless steel</li> <li>Transducer</li> <li>Diffection degree</li> <li>If a grade stainless steel</li> <li>Transducer</li> <li>Default and continues</li> <li>Storage temperature</li> <li>Ausing</li> <li>High grade stainless steel</li> <li>Transducer</li> <li>Diffection degree</li> <li>If and continues</li> <li>Mass</li> <li>Construction type</li> <li>Construction</li></ul>  | Temperature compensation          |  | 400 6000 mm ( adjustable via potentiometer )                |  |
| <ul> <li>Can be parameterized via the ULT:<br/>RA-PROG-IR software and interface (accessories)</li> <li>Switching hysteresis</li> <li>Gomma (accessories)</li> <li>Diagrams</li> <li>aracteristic response curve</li> <li>Cav Ymmi</li> <li>Caretoristic response curve</li> <li>Cav Ymmi</li> <li>Cada resistor</li> <li>Solo 200 mm</li> <li>Concettor M12 x 1, 55 °F)</li> <li>Shock resistance</li> <li>Solo 2, 11 ms period</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection degree</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection type</li> <li>Construction type<td></td><td></td><td></td></li></ul>  |                                   |  |   |  |
| <ul> <li>Can be parameterized via the ULT-<br/>RA-PROG-IR software and inter-<br/>face (accessories)</li> <li>Diagrams</li> <li>aracteristic response curve</li> <li>cv rmm</li> <li>Contraction type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection degree</li> <li>Protection degree</li> <li>Mass</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Protection degree</li> <li>Mass</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Mass</li> <li>Construction type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Mass</li> <li>Construction type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Mass</li> <li>Construction type</li> <li>Connector M12 x 1, 5-pin</li> <li>Protection degree</li> <li>Mass</li> <li>Construction type</li> <li>Construction typ</li></ul>   | Synchronization options           | ·  |   |  |
| RA-PRÔG-IR software and inter-<br>face (accessories)       Voltage drop       ≤ 3 V         Diagrams       Off-state current       ≤ 10 µA         aracteristic response curve       1 current output 4 20 mA, ascending/descen<br>programmable         aracteristic response curve       1 current output 4 20 mA, ascending/descen<br>programmable         aracteristic response curve       500 Ω         av firm]       0 dealt setting       500 Ω         Ambient conditions       42: 6000 mm         Ambient conditions       30 g, 11 ms period         Vibration resistance       30 g, 11 ms period         Vibration resistance       10 55 H2, Amplitude ± 1 mm         Mechanical specifications       Connection type         Connection type       Connector M12 x 1, 5-pin         Protection degree       IP65         Material       High grade stainless steel         Transducer       PTFE coated; epoxy resin/hollow glass sphere i<br>polyurethane foam         Installation position       any position         Mass       280 g         Construction type       Contruction type         Construction type       Construction type         Construction type       Construction type         Construction type       Construction type         Construction type  | Can be parameterized via the ULT- |  |   |  |
| Diagrams         aracteristic response curve         be* firmit            • of firmit   | RA-PROG-IR software and inter-    |  |   |  |
| Diagrams<br>Output type Output type 1 current output 4 20 mA , ascending/descen<br>programmable Default setting Trising spope ; evaluation limit A1: 400 mm ; eval<br>A2: 6000 mm Load resistor ≤ 500 Ω Ambient conditions Ambient conditions Ambient temperature 40 85 °F) Storage temperature 30 g , 11 ms period Vibration resistance 10 55 Hz , Amplitude ± 1 mm Mechanical specifications Connection type Connector M12 x 1 , 5-pin Protection degree IP65 Material Housing High grade stainless steel Transducer PTFE coated; epoxy resin/hollow glass sphere i polyurethane foam Installation position Mass 280 g Construction type Construction type Cylindrical Construction type Construction type Cylindrical Construction type Cylindrical Construction type Construction type Cylindrical Construction type Construction type Construction type Cylindrical Construction type Construction type Construction type Construction type Cylindrical Construction type Construction typ   | face (accessories)                | Off-state current  | ≤ 10 μA   |  |
| Programmable       programmable         aracteristic response curve       rising slope ; evaluation limit A1: 400 mm ; eval         ary firmit       Image: construction of the state of the stat   |                                   |  |   |  |
| aracteristic response curve         cevYmm]   | agrams                            | Output type  |   |  |
| aracteristic response curve       A2: 6000 mm         be Y(mm)       Load resistor       ≤ 500 Ω         Ambient conditions       -4086 °C (-40185 °F)         Ambient conditions       -4086 °C (-40185 °F)         Storage temperature       -4086 °C (-40185 °F)         Storage temperature       -4086 °C (-40185 °F)         Storage temperature       -085 °C (-40185 °F)         Storage temperature       -087 °C (-40185 °F)         Protection degree       IP65         Material       -157 °C (-40187 °C (-40187 °C)         Protection degree       IP165 <td></td> <td>Default setting</td> <td>rising slope ; evaluation limit A1: 400 mm ; evaluation lim</td>   |                                   | Default setting  | rising slope ; evaluation limit A1: 400 mm ; evaluation lim |  |
| Ambient conditions<br>Ambient conditions<br>Ambient temperature -25 70 °C (-13 158 °F)<br>Storage temperature -40 85 °C (-40 185 °F)<br>Storage temperature -40 85  | acteristic response curve         | , and the second s | A2: 6000 mm   |  |
| Alliberit Conditions<br>Alliberit Conditions<br>Connector M12 x 1, 5-pin<br>Protection degree<br>PTFE coated; epoxy resin/hollow glass sphere i<br>polyurethane foam<br>Installation position<br>Alliberit Conditions<br>Constitution type<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards<br>EN 60947-5-2:2007<br>IEC 60  | -<br>Imm                          | 2000 100.000   | ≤ 500 Ω   |  |
| Storage temperature -40 85 °C (-40 185 °F)<br>Shock resistance 30 g, 11 ms period<br>Vibration resistance 10 55 Hz , Amplitude ± 1 mm<br>Mechanical specifications<br>Connection type Connector M12 x 1 , 5-pin<br>Protection degree IP65<br>Material<br>Housing High grade stainless steel<br>Transducer PTFE coated; epoxy resin/hollow glass sphere I<br>polyurethane foam<br>Installation position any position<br>Mass 280 g<br>Construction type Cylindrical<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards EN 60947-5-2:2007<br>IEC 60947-5-2:2007<br>Approvals and certificates<br>UL approval cULus Listed, General Purpose  |                                   |  | -25 70 °C (-13 158 °E)                                      |  |
| Shock resistance 30 g , 11 ms period<br>Vibration resistance 10 55 Hz , Amplitude ± 1 mm<br>Mechanical specifications<br>Connection type Connector M12 x 1 , 5-pin<br>Protection degree IP65<br>Material<br>Housing High grade stainless steel<br>Transducer PTFE coated; epoxy resin/hollow glass sphere I<br>polyurethane foam<br>Installation position any position<br>Mass 280 g<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards EN 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007   |                                   | •  |   |  |
| Image: Connection type       Connector M12 x 1, 5-pin         Protection degree       IP65         Material       Housing         Image: Connection type       Connector M12 x 1, 5-pin         Protection degree       IP65         Material       Housing         Image: Connection type       Connection type         Image: Connection type       Connector M12 x 1, 5-pin         Protection degree       IP65         Material       Housing         Image: Connection type       PTFE coated; epoxy resin/hollow glass sphere in polyurethane foam         Installation position       any position         Mass       280 g         Compliance with standards and directives       Compliance with standards and directives         Standard conformity       Standards         Standards       EN 60947-5-2:2007         IEC 60947-5-2:2007       IEC 60947-5-2:2007         IEC 60947-5-2:2007       IEC 60947-5-2:2007         UL approvals and certificates       UL approval         UL approval       CULus Listed, General Purpose         CSA approval       cCSAus Listed, General Purpose   |                                   |  | · · · · · ·   |  |
| Connection type<br>Connector M12 x 1, 5-pin<br>Protection degree<br>IP65<br>Material<br>Housing<br>High grade stainless steel<br>Transducer<br>PTFE coated; epoxy resin/hollow glass sphere i<br>polyurethane foam<br>Installation position<br>Mass<br>280 g<br>Construction type<br>Connector M12 x 1, 5-pin<br>Protection degree<br>IP65<br>Material<br>Housing<br>Transducer<br>PTFE coated; epoxy resin/hollow glass sphere i<br>polyurethane foam<br>Installation position<br>Mass<br>280 g<br>Construction type<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards<br>EN 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007   |                                   | Vibration resistance   | 10 55 Hz , Amplitude ± 1 mm                                 |  |
| Protection degree IP65<br>Material<br>Housing High grade stainless steel<br>PTFE coated; epoxy resin/hollow glass sphere i<br>polyurethane foam<br>Installation position any position<br>Mass 280 g<br>Construction type Cylindrical<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards EN 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007<br>IEC 60947-5-2:2007   | 2                                 | •  |   |  |
| Material<br>Housing<br>High grade stainless steel<br>Transducer<br>PTFE coated; epoxy resin/hollow glass sphere in<br>polyurethane foam<br>Installation position<br>Mass<br>280 g<br>Construction type<br>Cylindrical<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards<br>Approvals and certificates<br>UL approval<br>CSA approval<br>CSA approval<br>CSA approval<br>CSA approval   |                                   |  | · · · ·   |  |
| Housing High grade stainless steel<br>Transducer PTFE coated; epoxy resin/hollow glass sphere i<br>polyurethane foam<br>Installation position any position<br>Mass 280 g<br>Construction type Cylindrical<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards EN 60947-5-2:2007<br>IEC 60947-5-2:2007  |                                   | 5  | 1605  |  |
| Image: standard conformity       Image: standard conformity         Standard conformity       Standards         Standards       EN 60947-5-2:2007         IEC 60947-5-2:2007       IEC 60947-5-2:2007   |                                   |  | High grade stainless steel                                  |  |
| Installation position any position<br>→ Y<br>×<br>rve 1: flat surface 100 mm x 100 mm<br>rve 2: round bar, Ø 25 mm<br>Approvals and certificates<br>UL approval<br>CSA approval<br>CSA approval<br>CSA approval<br>CSSA subtraction<br>CSA approval<br>CSA approval<br>CSA approval<br>CSA approval<br>Carpital any position<br>Any position<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Compliance with standards and<br>directives<br>Standards<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Compliance with standards and<br>directives<br>Standard conformity<br>Standards<br>Cylindrical<br>Compliance with standards and<br>directives<br>Standards<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical<br>Cylindrical   |                                   |  | PTFE coated; epoxy resin/hollow glass sphere mixture;       |  |
| Mass       280 g         Y       X         ive 1: flat surface 100 mm x 100 mm       Compliance with standards and directives         Standard conformity       Standards         Standards       EN 60947-5-2:2007         ICC 60947-5-2:2007       IEC 60947-5-2:2007         UL approvals and certificates       UL approval         UL approval       CULus Listed, General Purpose         CSA approval       cCSA us Listed, General Purpose  |                                   | lest-letter - W  |   |  |
| Y<br>x<br>x<br>x Y<br>x Y<br>x Y<br>x Y<br>x Y<br>x Y<br>x  |                                   |  |   |  |
| Compliance with standards and<br>directives     Standard conformity     Standards     Standards     EN 60947-5-2:2007     IEC 60947-5-2:2007     IEC 60947-5-2:2007     UL approvals and certificates     UL approval     CULus Listed, General Purpose     CSA approval     oCSAus Listed, General Purpose   | ↓ Y                               |  | 5   |  |
| standard conformity         Standards       EN 60947-5-2:2007         IEC 60947-5-2:2007         IEC 60947-5-2:2007         UL approvals and certificates         UL approval       cULus Listed, General Purpose         CSA approval       cCSA us Listed, General Purpose  | → X                               |  | e jintanoa  |  |
| rve 2: round bar, Ø 25 mm Standard conformity Standards EN 60947-5-2:2007 IEC 60947-5-2:2007  Approvals and certificates UL approval CSA approval CSA approval cULus Listed, General Purpose CSA approval cCSAus Listed, General Purpose  |                                   | directives   |   |  |
| Standards       EN 60947-5-2:2007<br>IEC 60947-5-2:2007         Approvals and certificates       UL approval         UL approval       cULus Listed, General Purpose         CSA approval       cCSAus Listed, General Purpose         COC approval       cCSAus Listed, General Purpose  | 2: round bar, Ø 25 mm             | •  |   |  |
| Approvals and certificates UL approval cULus Listed, General Purpose CSA approval cCSAus Listed, General Purpose CSA approval cCSAus Listed, General Purpose  |                                   | Standards  |   |  |
| Approvals and certificates         UL approval       cULus Listed, General Purpose         CSA approval       cCSAus Listed, General Purpose         000 mercuryl       0000 mercuryl (medicine act any inclusion)  |                                   |  | IEC 60947-5-2:2007  |  |
| Approvals and certificates         UL approval       cULus Listed, General Purpose         CSA approval       cCSAus Listed, General Purpose         COO mercural       COO mercural  |                                   |  |   |  |
| UL approval     cULus Listed, General Purpose       CSA approval     cCSAus Listed, General Purpose   |                                   |  |   |  |
| CSA approval cCSAus Listed, General Purpose   |                                   |  | · ·   |  |
|   |                                   |  | •   |  |
| CCC approval CCC approval CCC approval / marking not required for produ   |                                   | CCC approval   | CCC approval / marking not required for products rated      |  |
|   |                                   |  |   |  |

UCC6000-30GH70-IE2R2-V15

Analog output operating mode

Switching output operating mode

switching

point 1

h1

Evaluation range

Evaluation limit A2

switching

point 2

h2

**Additional Information** 

Evaluation limit A1

Rising ramp

\_\_)))

Window operation mode

□)))

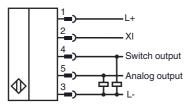
Blind zone

Blind zone

# Dimensions

# St x OE W 10.5 110.7

# **Electrical Connection**



# **Pinout**



#### Wire colors in accordance with EN 60947-5-2

| 1 | BN | (brown) |
|---|----|---------|
| 2 | WH | (white) |
| 3 | BU | (blue)  |
| 4 | BK | (black) |
| 5 | GY | (gray)  |

# Refer to "General Notes Relating to Pepperl+Fuchs Product Information". Pepperl+Fuchs Group USA: +1 330 486 0001 G www.pepperl-fuchs.com fa-info@us.pepperl-fuchs.com fa



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# 2

# Accessories

BF 30

Mounting flange, 30 mm

#### BF 5-30

Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm

V15-G-2M-PUR Female cordset, M12, 5-pin, PUR cable

#### V15-W-2M-PUR

Female cordset, M12, 5-pin, PUR cable

#### UC-18/30GM-IR Interface cable

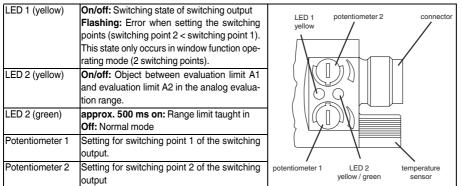
# ULTRA-PROG-IR

Configuration software for ultrasonic sensors

# **Description of Sensor Functions**

#### **Displays and Controls**

The sensor has two potentiometers and two display LEDs.



The potentiometer function described illustrates the default function. The function of the potentiometer can be altered using the ULTRA-PROG-IR software. As soon as a configuration has been changed, the potentiometer function selected using ULTRA-PROG-IR is activated.

#### Setting the Sensor Using the Potentiometers

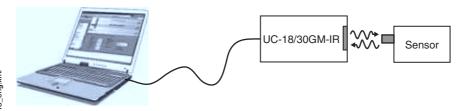
The sensor is equipped with two potentiometers. These potentiometers are assigned to the switching output by default. The switching output operates in window mode by default (2 switching points). Potentiometer 1 is used to set the near switching point of the switching window. Potentiometer 2 is used to set the distant switching point of the switching window.

#### Note:

The function of the potentiometer can be altered using the ULTRA-PROG-IR software. As soon as a configuration has been changed, the potentiometer function selected using ULTRA-PROG-IR is activated.

# Parameterization via ULTRA-PROG-IR

In order to be able to set the sensor parameters and adjust the sensor to the respective application, the sensor is able to communicate with a PC via the integrated infrared interface. The UC-18/30GM-IR interface cable is required to allow communication via this method. This cable is connected to an unused USB port on the PC.



The ULTRA-PROG-IR parameterization software is also required for setting the sensor parameters. The ULTRA-PROG-IR software can be downloaded for free from the **www.pepperl-fuchs.com** website. The software allows all open parameters to be set, including:

- All trip points and switching hystereses
- Output modes and behaviors
- Delay times
- Settings and setting ranges of the potentiometer
- Settings for teach-in and synchronization
- Definition of blind zones
- Sensor modes and measurement methods
- Filtering measurement values
- The following service functions are also available:
- Observing and recording measurement values
- Diagnosing interference reflections

#### Teach-in

The sensor is equipped with a function input (XI). In order to teach in a limit value, this sensor must be parameterized as the Teach-in input using the ULTRA-PROG-IR parameterization software. This parameterization software allows you to specify what limit value is taught in.

 Refer to "General Notes Relating to Pepperl+Fuchs Product Information"

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#### Note:

The Teach-in function is not activated when the sensor is delivered.

Description of the Teach-in process: 1. Position an object at the required distance.

- 2. Connect the Teach-in input to L-.
- - The green LED lights up briefly after approx. 3 seconds. This indicates that the required distance has been successfully saved.
- Disconnect the Teach-in input from L-. З.

#### Note:

If the Teach-in input remains connected to L-, the Teach-in process is repeated every 3 seconds.

#### Synchronization

The sensor features a function input (XI). Using the ULTRA-PROG-IR parameterization software, this function input can be configured as a synchronization input to suppress mutual interference from external ultrasonic signals. This is illustrated in the following description. If the synchronization input is not connected, the sensor operates with internally generated cycle pulses.

#### External synchronization

The sensor can be synchronized by applying external rectangular pulses. The pulse duration must be ≥ 100 µs. Each rising pulse edge sends an individual ultrasonic pulse. If the signal at the synchronization input is high, the sensor reverts to the normal, unsynchronized operating mode. If a low signal is applied to the synchronization input, the sensor switches to standby. In this operating mode, the last recorded output statuses are retained.

# Internal synchronization

#### Common mode operation

Up to ten sensors can be synchronized with each other. To do this, the synchronization inputs of the individual sensors are connected to each other. When configured in this state, all of the sensors send the ultrasonic signals together at the same time. The cycle rate corresponds to the cycle rate of the sensor with the lowest rate.

#### Multiplex mode

Up to ten sensors can work in multiplex mode; i.e. the sensors send their ultrasonic signals in succession. This prevents the sensor signals interfering with each other. In multiplex mode, the synchronization inputs of all sensors are connected to each other. An address must also be assigned to each sensor using the ULTRA-PROG-IR parameterization software, and the number of sensors to be synchronized must be determined. To start multiplex mode, all sensors are commissioned together by switching on the power supply.

