

# Double sheet sensor

# UDCM-30GS-3EP-IO-0,2M-V19

- Ultrasonic system for reliable detection of no, one, or two overlapping sheet materials, preferably sheet metal
  Insensitive to printing, colors, and shining surfaces
- Perpendicular or inclined sensor mounting relative to the sheet plane possible
- Integrated alignment aid
- IO-Link Interface for process data, parameterization and diagnosis
- Synchronization options
- No TEACH-IN required

# CE 🖤 🖌 🚱 IO-Link

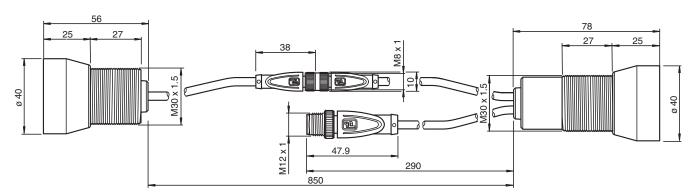
# Function

The ultrasonic double-sheet detector is used wherever automatic differentiation between single and double sheets is necessary to protect machines or prevent rejects. The double sheet detection is based on the ultrasonic thru-beam principle.

- The following situations can be detected: • No sheet, i. e. air
- Single sheet
- Double sheet or multiple sheets (a statement on the number of sheets is not possible here)

The signals are evaluated by a microprocessor system. As a result of the evaluation, corresponding switching outputs are set and the result of the evaluation is communicated via the IO-Link interface.

# Dimensions



# **Technical Data**

General specifications	
Sensing range	50 150 mm , optimal distance: 80 mm
Transducer frequency	approx. 85 kHz
Memory	
Non-volatile memory	EEPROM
Write cycles	300000
Indicators/operating means	
LED green	indication: single sheet detected flashing (1 Hz) - standby mode flashing with short break (1 Hz) - IO-Link mode

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

Pepperl+Fuchs Group www.pepperl-fuchs.com USA: +1 330 486 0001 fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111 fa-info@de.pepperl-fuchs.com Singapore: +65 6779 9091 fa-info@sg.pepperl-fuchs.com



Technical Data		
LED yellow		indication: no sheet detected (Air)
LED red		indication: double sheet detected
		flashing: device error
Electrical specifications		
Operating voltage	U <sub>B</sub>	18 30 V DC , ripple 10 % <sub>SS</sub>
No-load supply current	I <sub>0</sub>	≤ 100 mA
Power consumption	P <sub>0</sub>	≤ 1500 mW
Time delay before availability	t <sub>v</sub>	≤ 300 ms
Interface		
Interface type		IO-Link
IO-Link revision		1.1
Device profile		Identification and Diagnosis - I&D
Process data		Input: 16 Bit - measurement value 8 Bit - selected threshold set 2 Bit - switching signals 3 Bit Output: 8 Bit - threshold set 2 Bit - disable transducer 1 Bit
Vendor ID		1 (0x0001)
Device ID		3148294 (0x300A06)
Transfer rate		COM1 (4.8 kbits/s)
Min. cycle time		22.4 ms
SIO mode support		yes
Compatible master port type		Class A (use adapter cable listed in accesories) Class B (use 3-pole adapter or 3-wire cable)
Input/Output 1		
Designation		SYNC
Input/output type		1 synchronization connection, bidirectional
0 Level		0 1 V
1 Level		2.5 V U <sub>B</sub>
Input impedance		> 22 kΩ
Output rated operating current		current source < 2.5 mA
Pulse length		0.4 6 ms with external control, low active
Synchronization frequency		
Common mode operation		≤ 140 Hz
Multiplex operation		$\leq$ 140 Hz /n, n = number of sensors , n $\leq$ 10
Input/Output 2		
Designation		IN2/FEEDBACK
Input/output type		input or output programmable via IO-Link : input for selection of a threshold set (factory default) output as feedback output
Input type		digital input
Signal		0-level: 0 + 1V 1-level: +U <sub>B</sub> - 1 V +U <sub>B</sub>
Input impedance		≥ 60 kΩ
Pulse length		≥ 100 ms
Output type		PNP
Rated operating current	I <sub>e</sub>	8 mA
Voltage drop		< 3 V
Fusing		reverse polarity protected , overload and short-circuit protected
Input		
Designation		IN1/TEACH
Input type		0-level: 0 + 1V 1-level: +U <sub>B</sub> - 1 V +U <sub>B</sub>
Pulse length		≥ 100 ms
Impedance		≥ 60 kΩ

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

# UDCM-30GS-3EP-IO-0,2M-V19

Tec		

Designation   OUT 1 3     Number   3     Output function   OUT 1 :: single sheet detected OUT 2: double sheet detected OUT 3: no sheet detected (air)     Output type   Push-pull (4 in 1) output , NO contact ( programmable )     Rated operating current   I_e     I   100 mA per output     Voltage drop   U_d     Switch-on delay   ton     Switch-off delay   ton     Pulse extension   can be activated (100 ms or IO-Link cycle time)     Fusing   reverse polarity protected , overload and short-circuit resistant     Standard conformity   EN IEC 60947-5-2:2020 IEC 60947-5-2:2019 IEC 60947-5-2:2019 IEC 60131-9 / IO-Link V1.1.3	Output		
Number     3       Output function     3       Output function     0UT 1: single sheet detected OUT 2: ookle sheet detected OUT 3: no sheet detected (ini 1) output. No contact (programmable)       Rated operating current     1/2       Rated operating current     1/2       Voltage drop     1/2       Switch-of delay     1/4       Fuse seriesion     1/2       Fuse seriesion     1/2       Standard contromity     1/2       Standard contromity     1/2       Standard contromity     1/2       UL approval     cULus Listed, General Purpose, Class 2 Power Source       CCC approval/making not required for products rated ±3/8 V       Ambient conditions     1/2       Connection type     1/2       Iter coparts and contromity     1/2       Usparoval     1/40 cable with plug <td></td> <td></td> <td></td>			
Output functionImage of the detected output is not sheet detected output is not sheet detected (air)Output typePush-pull (4 in 1) output, NO contact (programmable)Rated operating currentImage output is not sheet detected (air)Voltage dropUmber is not sheet detected (air)Voltage dropUmber is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not per output is not sheet detected (air)Switch-od leayUmber is not sheet detected (air)Output is not sheet detected (air)Umber is not sheet detected (air)ApproxesCollar is leay is not sheet detected (air)ApproxesUmber is not sheet detected (air) <t< td=""><td>•</td><td></td><td></td></t<>	•		
UT 2: doible sheet detected OUT 3: no sheet detected OUT 3: no sheet detected (a)OUT 2: doible sheet detected OUT 3: no sheet detected (a)Rated operating current ,Rated operating current ,Valtage dropU,Switch-ont delayL,Switch-ont delayL,Switch-ont delayL,Switch-ont delayL,Pulse extensionC and be activated (100 ms or IO-Link cycle time)Fusingreverse polarity protected , overload and short-circuit resistantCompliance with standards and directivesreverse polarity protected , overload and short-circuit resistantCompliance with standards and directivesreverse polarity protected , overload and short-circuit resistantCompliance with standardsEIN EC 60947-5-2:2020 IEC 60947-5-2:2020 			
Rated operating ourmentI.e.100 mA per outputVoltage dropU.e.5 3 VSwitch-off delayE.e.5 30 ms (programmable)Switch-off delayLan30 ms (programmable)Puise extensionCan be activated (100 ms or IO-Link cycle time)Fusing-can be activated (100 ms or IO-Link cycle time)Switch-off delayE.e.Switch-off delayStandard conformity-FNIEC 60947-5-2:2020 IEC 6131-99 I/O-Link V1.1.3Approval and certificates-FNIEC 60947-5-2:2020 IEC 6131-99 I/O-Link V1.1.3Approval and certificates-CC approval/marking not required for products rated s36 VCCC approval-CC approval/marking not required for products rated s36 VAmbient temperature-0.60 °C (32 140 °F)Storage temperature-56 mmVoltrasonic transmitter-78 mmVoltrasonic transmitter-78 mmVultrasonic receiver-78 mmVultrasonic transmitter-30 mmUtrasonic transmitter-30 mmUtrasonic transmitter-30 mmUtrasonic transmitter-30 mmUtrasonic transmitter-48MaterialMusing dimeterUtrasonic transmitter-30 mmUtrasonic transmitterBerger diprotection-FEMaterialHousing dimeterBerger diprotechon<	Output function		OUT 2: double sheet detected
Voltage dropUa a $\leq$ 3 VSwitch-on delay $t_m$ 30 ms (programmable)Switch-on delay $t_m$ 30 ms (programmable)Pulse extensioncan be activated (100 ms or IO-Link cycle time)Fusingreverse polarity protected , overload and short-circuit resistantCompliance with standards and directivesStandard conformityStandard conformityEN IEC 60047-5-2:2020 IEC 60047-6-2:207 IEC 60047-6-2:207 IEC 60047-6-2:207	Output type		Push-pull (4 in 1) output , NO contact ( programmable )
Switch-on delayt_n30 ms (programmable)Switch-off delayt_a30 ms (programmable)Pulse extensioncan be activated (100 ms or IO-Link cycle time)Fusingcan be activated (100 ms or IO-Link cycle time)Compliance with standards and directivesStandard conformityStandard conformityStandardsEN IEC 60947-5-2:2020 IEC 60947-5-2:2017Muterial-0	Rated operating current	l <sub>e</sub>	100 mA per output
Switch-off delay     t <sub>ur</sub> 30 ms (programmable)       Pulse setension     can be activated (100 ms or IO-Link cycle time)       Fusing     reverse polarity protected, overload and short-circuit resistant       Compliance with standards and directives     reverse polarity protected, overload and short-circuit resistant       Standard conformity     Standard conformity       Standard conformity     EC 60047-5.5-2020 EC 60947-5-2-2019 EC 60131-9-710-Link V11.13       Approvals and certificates     CCC approval / marking not required for products rated <36 V	Voltage drop	$U_d$	≤3V
Pulse extension     Icon be activated (100 ms or IO-Link cycle time)       Fusing     reverse polarity protected, overload and short-circuit resistant       Standard conformity     Standards and extension       Standards     EN EC 60947-5-2:2020       Standards     EN EC 60947-5-2:2020       Approval     Goldyard-5-2:2020       Approval     Gultus Listed, General Purpose, Class 2 Power Source       CCC approval     CCC approval / marking not required for products rated ≤36 V       Ambient temperature     060 °C (32 140 °F)       Storage temperature     060 °C (32 140 °F)       Storage temperature     660 °C (32 140 °F)       Mousing length     Fuel cable with plug       Housing fragether     6	Switch-on delay	t <sub>on</sub>	30 ms (programmable)
Fusing     reverse polarity protected, overload and short-circuit resistant       Compliance with standards and directives       Standard conformity       Standard conformity       Standards     Image: Compliance with standards and directives       Approval     Compliance with standards and directives       Approval     Collus Listed, General Purpose, Class 2 Power Source       CCC approval     CCC approval / marking not required for products rated ≤36 V       Ambient conditions     Condector (13 158 °F)       Mechanical specifications     Image: Connection type       Mechanical specifications     Image: Connection type       Ultrasonic transmitter     S 6 mm       Ultrasonic transmitter     S 6 mm       Ultrasonic transmitter     S 0 mm       Ultrasonic transmitter     S 0 mm       Ultrasonic receiver     S on m       Ultrasonic transmitter     S on m       Ultrasonic transmitter     S on m       Degree of protection     PG	Switch-off delay	t <sub>off</sub>	30 ms (programmable)
Standards and directives       Standard conformity       Standards     EN EC 60947-5-2:2020 IEC 60947-5-2:2019 IEC 60947-5:2:2019 IEC 60947-5:2:2019 IEC 60947-5:2:2019 IEC 60947-5:2:2019 IEC 60947-5:2:2019 IEC 60947-5:2:2019 IEC 60191-910-910 IEC 60191-910-910-910-910-910-910-910-910-910	Pulse extension		can be activated (100 ms or IO-Link cycle time)
Standard conformity   EN IEC 60947-5-2:2020 IEC 60947-5-2:2020 IEC 61131-9 / IO-Link V1.1.3     Approvals and certificates      UL approval   © CULus Listed, General Purpose, Class 2 Power Source     CCC approval   CCC approval/marking not required for products rated ≤36 V     Ambient conditions      Ambient temperature   0 60 °C (32 140 °F)     Storage temperature   2-5 70 °C (-13 158 °F)     Mechanical specifications      Connection type   16 fixed cable with plug     Housing length      Ultrasonic receiver   78 mm     Ultrasonic receiver   30 mm     Ultrasonic receiver   1965     Material      Housing diameter      Ultrasonic receiver   Stainless steel 1.4305/AISI 303, polyamide plastic parts     Transducer   Eopsy presynholiow glass sphere mixture; polyurethane foam     Connector      Threading   M12 x 1     Number of pins   8     Cable diameter   4.3 mm     Golor      Cable diameter   4.3 mm     Golor   S x diameter, fixed     <	Fusing		reverse polarity protected , overload and short-circuit resistant
Standards Image: Standards   Approvals and certificates   UL approval CULus Listed, General Purpose, Class 2 Power Source   CCC approval CCC approval/marking not required for products rated ≤36 V   Ambient conditions Cace capproval/marking not required for products rated ≤36 V   Ambient temperature 060 °C (32 140 °F)   Storage temperature 060 °C (32 140 °F)   Storage temperature 0 60 °C (32 140 °F)   Connection type fixed cable with plug   Motient temperature 0 60 °C (32 140 °F)   Connection type fixed cable with plug   Housing length Image: Connection type   Ultrasonic transmitter 30 mm   Ultrasonic receiver 30 mm   Ultrasonic receiver 30 mm   Ultrasonic receiver 30 mm   Ultrasonic receiver 90 reget protection   Ultrasonic receiver 10 egorey resin/hollow glass sphere mixture; polyurethane foam   Connector Image: Connection   Transducer 80   Connector 80   Connector 80   Transducer 90 pory resin/hollow glass sphere mixture; polyurethane foam   Connector 8   Cable 14005/AISI 303, polyamide plastic parts   Gable diameter	Compliance with standards and directives		
IEC 60947-5-2:019 (IEC 61131-9 / IO-Link V1.1.3       Approvals and certificates       UL approval     cUL us Listed, General Purpose, Class 2 Power Source       CC approval     cULus Listed, General Purpose, Class 2 Power Source       Ambient conditions     co. aporoal / marking not required for products rated ≤36 V       Ambient conditions     060 °C (32140 °F)       Moticina Ispecifications     co. an 60 °C (32140 °F)       Mechanical specifications     060 °C (13158 °F)       Moticina Ispecifications     reget and	Standard conformity		
UL approval     Gell Lus Listed, General Purpose, Class 2 Power Source       CCC approval     CCC approval/ marking not required for products rated ≾36 V       Ambient conditions	Standards		IEC 60947-5-2:2019
CCC approvalCCC approval / marking not required for products rated $\leq 36$ VAmbient conditionsAmbient temperature0 $60$ °C ( $32$ $140$ °F)Storage temperature0 $60$ °C ( $32$ $140$ °F)Bethenical specifications1Connection typefixed cable with plugHousing length56 mmUltrasonic transmitter56 mmUltrasonic transmitter56 mmUltrasonic receiver78 mmHousing diameter30 mmUltrasonic receiver30 mmUltrasonic receiver30 mmDegree of protection1P65Material1HousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducer8Connector1ThreadingM12 x 1Number of pins8Cable diameter4.3 mmBending radius5 x diameter, fixedMaterial1Material1Number of pins6 s to diameter, fixedCable diameter4.3 mmBending radius9 PURColor10 blackColor10 blackColor10 blackColor10 blackColor10 blackLength10 approx.200 mm	Approvals and certificates		
Ambient conditions   0 60 °C (32 140 °F)     Storage temperature   6 60 °C (32 140 °F)     Storage temperature   6 60 °C (32 158 °F)     Mechanical specifications   5 70 °C (-13 158 °F)     Connection type   fixed cable with plug     Housing length   56 mm     Ultrasonic transmitter   56 mm     Ultrasonic receiver   78 mm     Housing diameter   30 mm     Ultrasonic transmitter   30 0 mm     Ultrasonic receiver   90 mm     Degree of protection   IP65     Material   10     Housing   Stainless steel 1.4305/AISI 303, polyamide plastic parts     Transducer   8     Connector   10     Threading   M12 x 1     Number of pins   8     Cable   10     Eddiameter   4.3 mm     Bending radius   5 x diameter, fixed     Material   10     Material   10     Res   2 x diameter, fixed     Radius   9 PUR     Cable   bainer, fixed     Material   9 aprox.200 mm <td>UL approval</td> <td></td> <td>cULus Listed, General Purpose, Class 2 Power Source</td>	UL approval		cULus Listed, General Purpose, Class 2 Power Source
Ambient temperature     060 °C (32140 °F)       Storage temperature     -2570 °C (-13158 °F)       Mechanical specifications     Ited cable with plug       Connection type     16       Housing length     Ited cable with plug       Housing length     78 mm       Ultrasonic transmitter     30 mm       Iltrasonic receiver     78 mm       Ultrasonic receiver     30 mm       Ultrasonic receiver     965       Meterial     10       Housing     Foosy resin/hollow glass sphere mixture; polyurethane foam       Ocnector     17 masducer       Threading     10       Number of pins     8       Cable     141 × 1       Bending radius     10       Scabed diameter     4.3 mm       Bending radius     10       Scabed diameter     9.0 staineter, fixed       Golor     10       Material     10       Golor     10       Material     10       Golor     10       Material     10       Golor	CCC approval		CCC approval / marking not required for products rated $\leq$ 36 V
Storage temperature     Image: edited in the image: edite	Ambient conditions		
Mechanical specifications     if kied cable with plug       Connection type     f kied cable with plug       Housing length     if kied cable with plug       Ultrasonic transmitter     56 mm       Ultrasonic receiver     78 mm       Housing diameter     30 mm       Ultrasonic transmitter     30 mm       Degree of protection     1P65       Material     6       Housing     5 stainless steel 1.4305/AISI 303, polyamide plastic parts       intrasducer     epoxy resin/hollow glass sphere mixture; polyurethane foam       Connector     1112 x 1       Threading     112 x 1       Number of pins     112 x 1       Cable diameter     4.3 mm       Gable diameter     4.3 mm       Gable diameter     9UR       Material     PUR       Material     PUR       Color     black       Material     4       Material     4	Ambient temperature		0 60 °C (32 140 °F)
Connection typeIf ked cable with plugHousing length56 mmUltrasonic transmitter78 mmHousing diameter78 mmUltrasonic receiver30 mmUltrasonic receiver30 mmUltrasonic receiver106Ultrasonic receiver108Naterial109HousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducer109Portection109ThreadingM12 x 1Number of pinsM12 x 1Cable diameter4.3 mmCable diameter4.3 mmGolorPURColor100Material100Material100Staineter, fixed100Miterial100Miterial100Materia	Storage temperature		-25 70 °C (-13 158 °F)
Housing lengthUltrasonic transmitter56 mmUltrasonic receiver78 mmHousing diameter30 mmUltrasonic transmitter30 mmUltrasonic receiver30 mmDegree of protectionIP65MaterialStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerM12 x 1Number of pins8CableM12 x 1Cable5 x diameter, fixedMaterial5 x diameter, fixedMaterial9URColorJUR Stainless Steel I.4305/AISI StainlesMaterialM12 x 1Number of pinsStainless steel I.4305/AISI StainlesCableMI2 x 1CablePURCableStainless steel StainlesMaterialStainless Steel StainlesMaterialGia Stainless Steel StainlesMaterialMI2 x 1MaterialStainless Steel StainlesMaterialStainless Steel StainlesMaterialGia Stainless Steel StainlesMaterialGia Stainless Steel StainlesMaterialMasMassNo gia Stainless Steel Stainles	Mechanical specifications		
Ultrasonic transmitterImage: S6 mmUltrasonic receiver78 mmHousing diameter30 mmUltrasonic transmitter30 mmUltrasonic receiver30 mmDegree of protectionIP65MaterialImage: Stainless steel 1.4305/AISI 303, polyamide plastic partsTransducerepoxy resin/hollow glass sphere mixture; polyurethane foamConnectorImage: Stainless steel 1.4305/AISI 303, polyamide plastic partsThreadingImage: Stainless steel 1.4305/AISI 303, polyamide plastic partsNumber of pinsStainless steel 1.4305/AISI 303, polyamide plastic partsCable diameterM12 x 1AuterialImage: Stainless steel 1.4305/AISI 303, polyamide plastic partsCable diameterStainless steel 1.4305/AISI 303, polyamide plastic partsGable diameterStainless steel 1.4305/AISI 303, polyamide plastic partsGable diameterStainless steel 1.4305/AISI 303, polyamide plastic partsGable diameterStainless steel 1.4305/AISI 303, polyamide plastic partsMaterialImage: Stainless steel 1.4305/AISI 303, polyamide plastic partsMaterialStainless steel 1.4305/AISI 303, polyamide plastic partsMaterialImage: Stainless steel 1.4305/AISI 303, polyamide plastic partsColorImage: Stainless steel 1.4305/AISI 303, polyamide plastic plastic plastic steel 1.4305/AISI 303, polyamide plastic plastic steel 1.4305/AISI 303, polyamide plastic steel 1.4305/AISI 303,	Connection type		fixed cable with plug
Ultrasonic receiver78 mmHousing diameter30 mmUltrasonic ransmitter30 mmUltrasonic receiver106Degree of protection1965Material10HousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerepoxy resin/hollow glass sphere mixture; polyurethane foamConnector11Threading10Number of pins8Cable11Cable diameter4.3 mmBending radius5 x diameter, fixedMaterialPURColor10MaterialLaMaterialLaMaterialLaMaterialSu diameter, fixedMaterialLaMaterialLa approx.200 mmMassSo 0 g	Housing length		
Housing diameterImage: science of protectionImage:	Ultrasonic transmitter		56 mm
Ultrasonic transmitter30 mmUltrasonic receiver30 mmDegree of protectionIP65MaterialIMHousingStainless steel 1.4305/AISI 303, polyamide plastic parts epoxy resin/hollow glass sphere mixture; polyurethane foamConnectorM12 x 1ThreadingM12 x 1Number of pins8CableIMCable diameter4.3 mmBending radius5 x diameter, fixedMaterialPURColorblackLengthLApprox.200 mmMass300 g	Ultrasonic receiver		78 mm
Ultrasonic receiverI30 mmDegree of protectionIP65MaterialIHousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerepoxy resin/hollow glass sphere mixture; polyurethane foamConnectorIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII	Housing diameter		
Degree of protectionIP65MaterialIP65MaterialStainless steel 1.4305/AISI 303, polyamide plastic partsHousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerepoxy resin/hollow glass sphere mixture; polyurethane foamConnector1ThreadingM12 x 1Number of pins8CableImmediateCable diameter4.3 mmBending radius5 x diameter, fixedMaterialPURColorblackLengthLApprox.200 mmMass300 g	Ultrasonic transmitter		30 mm
MaterialImage: MaterialImage: MaterialHousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerepoxy resin/hollow glass sphere mixture; polyurethane foamConnectorM12 x 1ThreadingM12 x 1Number of pins8CableImage: MaterialBending radiusS x diameter, fixedMaterialPURColorblackLengthLMass300 g	Ultrasonic receiver		30 mm
HousingStainless steel 1.4305/AISI 303, polyamide plastic partsTransducerepoxy resin/hollow glass sphere mixture; polyurethane foamConnectorThreadingM12 x 1Number of pins8Cable1Cable diameter4.3 mmBending radius5 x diameter, fixedMaterialPURColorblackLengthLMass300 g	Degree of protection		IP65
TransducerImage: Image: Im	Material		
Connector   M12 x 1     Threading   M12 x 1     Number of pins   8     Cable   1     Cable diameter   4.3 mm     Bending radius   5 x diameter , fixed     Material   PUR     Color   Image: Material     Length   L     Mass   Image: Material	Housing		Stainless steel 1.4305/AISI 303, polyamide plastic parts
ThreadingImage: Millowing of pinsMillowing of pinsMillowing of pinsNumber of pins8CableImage: Millowing of pins4.3 mmCable diameter4.3 mm5 x diameter , fixedMaterialFURFURColorImage: Millowing of pinsblackLengthLapprox.200 mmMassImage: Millowing of pins300 g	Transducer		epoxy resin/hollow glass sphere mixture; polyurethane foam
Number of pins8CableImage: Material4.3 mmBending radius4.3 mmMaterial5 x diameter , fixedColorPURColorImage: Masser Market Mark	Connector		
CableImage: Section of the	Threading		M12 x 1
Cable diameter4.3 mmBending radius5 x diameter , fixedMaterialFURColorImage: Second S	Number of pins		8
Bending radius Image: Sx diameter , fixed   Material PUR   Color Image: Sx diameter , fixed   Length Image: Sx diameter , fixed   Mass Image: Sx diameter , fixed	Cable		
MaterialPURColorblackLengthLMassS00 g	Cable diameter		4.3 mm
Color Image: black   Length L approx. 200 mm   Mass G 300 g	Bending radius		5 x diameter , fixed
Length L approx. 200 mm   Mass 300 g	Material		PUR
Mass 300 g	Color		black
	Length	L	approx. 200 mm
Tightening torque, fastening screws max. 30 Nm	Mass		300 g
	Tightening torque, fastening screws		max. 30 Nm

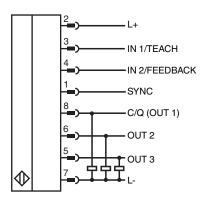
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

3

### Double sheet sensor

# UDCM-30GS-3EP-IO-0,2M-V19

#### Connection



# **Connection Assignment**

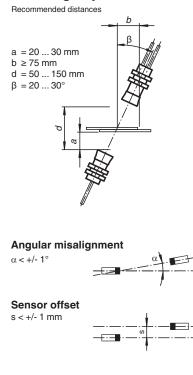


# Installation

#### Hinweis

Only use the cables specified by Pepperl+Fuchs for this purpose to extend the connecting cable between the transmitter and receiver of the ultrasonic double sheet detectors. The use of other cables will result in impairment of the sensor function or even loss of function.

#### Mounting/Adjustment



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

Release date: 2023-07-21 Date of issue: 2023-07-21 Filename: 70120102-100001\_eng.pdf

4

## Commissioning

Operating Modes The measured object is a material inserted between the emitter and receiver. The sensor measures the damping of the emitted ultrasonic signal caused by the material.

The residual amplitude of the ultrasonic signal arriving at the receiver is evaluated in relation to the set threshold values and assigned to the corresponding state (="air", "single sheet" or "double sheet"). The detected state is reported back via the switching outputs of the sensor and via the IO-Link process data. In the IO-Link process data, the measured amplitude is also made available as an analog value.

Depending on the application, the sensor can be operated in the following ways: 1. By selecting one of the 3 implemented threshold sets, each covering a very wide range of materials. The respective thresholds are preset but adjustable.

- 2. By teaching in a specific material or a specific material constellation for multi-layer materials.
- 3. In permanent IO-Link operation, a completely separate evaluation of the amplitude values measured by the sensor can be performed in the downstream, user-side controller in addition or as an alternative to the two aforementioned options.

#### **Further Documentation**

For detailed information on mounting, alignment and commissioning you may refer to the commissioning instruction of the sensor.

The sensor manual is also available as detailed overall documentation.

You can access the documents mentioned via the product detail page at www.pepperl-fuchs.com.

Acces	Accessories			
66	V31-GM-1M-PUR- V31-GM-UDB/UDC	Cordset M8 socket straight to M8 plug straight A-coded, 4-pin, PUR cable 3-core black, shielded, UL approved		
66	V31-GM-2M-PUR- V31-GM-UDB/UDC	Cordset M8 socket straight to M8 plug straight A-coded, 4-pin, PUR cable 3-core black, shielded, UL approved		
<i>s i</i>	V19-G-BK2M-PUR-U	Female cordset single-ended M12 straight A-coded, 8-pin, PUR cable black, UL approved		
1990 - 19900 - 19900 - 19900 - 1990 - 19900 - 1990 - 1990 - 1990 - 1990	IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection		
$\geq$	V19-G-BK0,6M-PUR-U- V1-G-YIOL	Cordset for IO-Link M12 socket straight A-coded 8-pin to M12 plug straight A-coded 4-pin, PUR cable black, UL approved, drag chain suitable		
2	MH-UDB02	Mounting bracket for double sheet metal monitor		
0	AB-30	Mounting aid		

5