GLOBAL PROPULSION SYSTEMS ME

General Motors

Program Book / Guidelines for IFM ELECTRONIC Parts

ifm efector

Program Book for IFM ELECTRONIC Parts

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Revision Date	Version #	Description	Section	Revised By
November 3, 2009	CL-E-IFM_vG1.0_20091103	First Global Version	All	Mike Sutherland
November 1, 2010	CL-E-IFM_vG2.0_20101101	Second Global Version	All	Mike Sutherland
February 1, 2013	CL-E-IFM_vG2.1_20130201	Updated Europe, China, Asia, Italy and Brazil contacts Added IE5288 & MK5107 Added O1D101 Corrected PNI & PA information. Added PG series. Added SD5000, SM9000, SU series and SBU series. Updated TT series probes Removed LK7 series level probes Added note GM CME Approval needed to use AS-i Added note GM CME Approval needed to use AS-i Added note GM CME Approval needed to use AS-i Added AC5236 Removed all SAW products Renamed 2.13 Added GM705S, renamed 2.14 Renamed 2.15 Added VSA series transducers, renamed 2.16	1.3 2.1 2.4 2.6 2.7 2.8 2.9 2.10 2.11 2.12 2.12 2.13 2.14 2.15 2.16 2.17	Mike Sutherland
January 1, 2014	CL-E-IFM_vG2.2_20140101	Updated Mexico and Brazil contacts Added E10848, E10849, E10221, E11114 & E11115 brackets Added O6X301 Updated power supply part numbers DN2x3x to DN403x. Removed obsolete VE1001 and VE1101	1.3 2.3 2.4 2.13 2.16	Mike Sutherland
November 18, 2014	CL-E-IFM_vG2.3_20140101	Added new PN7 2 color display pressure switches Removed older style PN7 pressure switches Added LMC502 point level switch	2.6 2.6 2.9	Mike Sutherland
February 2, 2016	CL-E-IFM_vG3 0_2Feb2016	Updated contacts for China & Thailand Removed Object Recognition/Smart Sensors Removed PN5 Pressure switches Replaced old PN20xx analog pressure with new PN2xxx switches Replaced old PN300x analog pressure with new PN3xxx switches Updated obsolete TS2051 to TS2069 Added note to AS-i Sections stating not to be used on new programs Updated obsolete power supplies	1.3 2.5 2.5 2.5 2.5 2.5 2.6 2.9 - 2.11 2.12 2.14 2.15	Mike Sutherland

		Updated obsolete DD2001 to DD2503 Remove obsolete vibration switch and cable		
September 8, 2017	CL-E-IFM_vG4.0_8September2017	Updated Japanese Contact person Updated K=1 to new types. Added IFT257, IGT258 & IIT243 proximity switches Added O6 coolant opto switches Added UG Ultrasonic switches Added SA flow meters. Updated TN / TR temperature switches Added LR2050 level switch Add EBC passive blocks Added IO Link blocks Removed AS-i Controllers Removed AS-i Power supplies Removed AS-i Modules & Misc. Items Removed Power supplies	1.3 2.1 2.1 2.4 2.5 2.7 2.8 2.9 2.17 2.17	Mike Sutherland
May 20, 2019	CL-E-IFM_vG4.1_20Mayl2019	Updated Mexico & Brazil Contacts Removed Dynamic Type Ring and Tube sensors Updated O6 coolant opto switches to types with 12mm connector Added OGD laser sensors Update UG Ultrasonic switches Added LMC1xx & LMC4xx level sensors	1.3 2.2 2.4 2.4 2.5 2.9	Mike Sutherland
July 8, 2020	CL-E-IFM_vG4.2_08July2020	Updated contacts for Italy & Brazil Added MQ and IQW sensors Added MVQ valve sensor Added O5D laser sensors Added OPD Profiler Updated SM Mag meters to newer types Updated SD airflow meters to newer types Added display models of mechatronic flow meters (SGB) Added particle, humidity and conductivity sensors Added non-contact RFID coded safety switches Added VSE15x EIP and PROFINET vibration monitors Removed IO Link Section	1.3 2.1 2.1 2.4 2.4 2.7 2.7 2.7 2.10 2.11 2.13 n/a	Mike Sutherland

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1 INTRODUCTION

1.1 SCOPE OF DOCUMENT

ifm electronic has worked closely with GM Global Propulsion Systems to develop this project book. The listed items are among those selected by General Motors as acceptable products to be used for GM Programs.

1.2 CONTENT EXPLANATION

The products listed are those which should be considered as long as they are applied properly for the application. If the products listed do not suit the needs of a special application, please contact the support personnel listed in section 1.3 of this document. For wiring diagrams, CAD Drawings or specifications of the products contained within, please contact the support personnel or refer to the ifm efector websites at: www.ifm.com.

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Program Guideline Parts

2 PROGRAM GUIDLINE PARTS

2.1 INDUCTIVE & CAPACITIVE PROXIMITY SENSORS

ifm #	Description	Picture
IE5318	8mm metal barrel, 62mm long, 2mm sensing range flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	
IE5288	8mm metal barrel, 62mm long, 4mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	
IE5331	8mm metal barrel, 62mm long, 4mm sensing range flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	
IE5351	8mm metal barrel, 37m long, 3mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67, normally open, .3m PVC cable with micro DC 4 pin M12 pigtail connector.	
IE5352	8mm metal barrel, 37m long, 5mm sensing range non-flush mount, 10 to 30 VDC, PNP, IP 67, normally open, .3m PVC cable with micro DC 4 pin M12 pigtail connector.	
IEC200	8mm metal barrel, 60mm long, 2mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Impact Resistant Stainless Steel sensing face**	
IFC204	12mm metal barrel, 45mm long, 4mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IFC205	12mm metal barrel, 50mm long, 7mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IFC206	12mm metal barrel, 45mm long, 4mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Ceramic sensing face**	
IFC210	12 mm metal barrel, 70mm long, 4mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Ceramic sensing face**	
IF5775	12mm metal barrel, 60mm long, 4mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	

IF5811	12mm metal barrel, 60mm long, 7mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IFC263	12mm metal barrel, **Ferrous-only sensing**, 60mm long, 2.5mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IFS29x	12mm metal barrel 45mm long, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin M12 connector. **K=1 correction factor** **IFS297**: 4mm flush **IFS298**: 8 mm non-flush **IFS299**: 10mm non-flush	
IFS30x	12mm metal barrel 60mm long, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin M12 connector. **K=1 correction factor** **IFS304**: 4mm flush **IFS305**: 8 mm non-flush **IFS306**: 10mm non-flush	
IFC258	12mm metal barrel, 60mm long, 3mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Impact Resistant Stainless Steel sensing face**	
IFT240	12mm metal barrel, 60mm long, 3mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68 & 69K, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IFT245	12mm metal barrel, 60mm long, 6mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68 & 69K, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IFT257	12mm metal barrel, 45mm long, 4mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin (3 pins used) M12 connector. **Stainless Steel sensing face**	
IGC204	18mm metal barrel, 46mm long, 8mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IGC205	18mm metal barrel, 51mm long, 12mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IGC206	18mm metal barrel, 46mm long, 8mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Ceramic sensing face**	
IGC210	18mm metal barrel, 70mm long, 8mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Ceramic sensing face**	
IGC213	18mm metal barrel, 70mm long, 12mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	

IGC224	18mm metal barrel, 70mm long, 8mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IG5788	18mm metal barrel, 72mm long, 12mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	
IG5841	18mm metal barrel, 72mm long, 12mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	
IGS28x	18mm metal barrel 45mm long, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin M12 connector. **K=1 correction factor** **IGS287**: 8mm flush **IGS288**: 12mm non-flush **IGS289**: 15mm non-flush	
IGS29x	18mm metal barrel 60mm long, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin M12 connector. **K=1 correction factor** **IGS290**: 8mm flush **IGS291**: 12mm non-flush **IGS292**: 15mm non-flush	
IGC248	18mm metal barrel, 70mm long, 5mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Impact Resistant Stainless Steel sensing face**	
IGC249	18mm metal barrel, **Ferrous-only sensing**, 70mm long, 4.5mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IGT247	18mm metal barrel, 70mm long, 5mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68 & 69K, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IGT249	18mm metal barrel, 70mm long, 12mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68 & 69K, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IGT258	18mm metal barrel, 45mm long, 8mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin (3 pins used) M12 connector. **Stainless Steel sensing face**	
IIC200	30mm metal barrel, 50mm long, 15mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
IIC201	30mm metal barrel, 50mm long, 22mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector.	
II5742	30mm metal barrel, 72mm long, 15mm sensing range flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	
II5785	30mm metal barrel, 72mm long, 22mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 67, normally open with micro DC 4 pin M12 connector.	

IIS281	30mm metal barrel, 45mm long, 15mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin M12 connector. **K=1 correction factor**	
IIS28x	18mm metal barrel 60mm long, 10 to 30 VDC, PNP, IP 67, 68 & 69K, normally open with micro DC 4 pin M12 connector. **K=1 correction factor** **IIS282**: 15mm flush **IIS283**: 22mm non-flush **IIS284**: 30mm non-flush	
IIC224	30mm metal barrel, 70mm long, 10mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68, normally open with micro DC 4 pin M12 connector. **Impact Resistant Stainless Steel sensing face**	
IIT228	30mm metal barrel, 70mm long, 10mm sensing range flush mount, 10 to 36 VDC, PNP, IP 68 & 69K, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IIT231	30mm metal barrel, 70mm long, 22mm sensing range non-flush mount, 10 to 36 VDC, PNP, IP 68 & 69K, normally open with micro DC 4 pin M12 connector. **Stainless Steel sensing face**	
IIT243	30mm metal barrel, 50mm long, 15mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67 & 68, normally open with micro DC 4 pin (3 pins used) M12 connector. **Stainless Steel sensing face**	
IQ2002	20 x 8 x 32 mm metal body, 8mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67 & 68, normally open with micro DC 4 pin (3 pins used) .3m PUR pigtail M12 connector.	
IQ2003	20 x 8 x 32 mm metal body, 8mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67 & 68, normally closed with micro DC 4 pin (3 pins used) .3m PUR pigtail M12 connector.	
MQ2005	20 x 8 x 32 mm metal body, 5mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67, normally open with micro DC 4 pin (3 pins used) .3m PUR pigtail M12 connector. **Steel sensing face and ferrous only.**	
IQW201	20 x 8 x 32 mm metal body, 8mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67 & 68, normally open with micro DC 4 pin (3 pins used) .3m PUR pigtail M12 connector. **K=1 correction factor**.	
IM5115	66mm x 40mm x 40mm rectangular plastic housing, 20mm sensing range, flush mount, 10 to 36 VDC, PNP, IP 67, normally open output with micro DC 4 pin M12 connector. Sensing direction selectable in 5 directions.	
IM5116	66mm x 40mm x 40mm rectangular plastic housing, 35mm sensing range, non-flush mount, 10 to 36 VDC, PNP, IP 67, normally open output with micro DC 4 pin M12 connector. Sensing direction selectable in 5 directions.	
IM5123	66mm x 40mm x 40mm rectangular plastic housing, 20mm sensing range, flush mount, 10 to 36 VDC, PNP, IP 67, normally open and normally closed output with micro DC 4 pin M12 connector. Sensing direction selectable in 5 directions.	
IM5134	66mm x 40mm x 40mm rectangular plastic housing, 35mm sensing range, non-flush mount, 10 to 36 VDC, PNP, IP 67, normally open and normally closed output with micro DC 4 pin M12 connector. Sensing direction selectable in 5 directions.	
IM5119	66mm x 40mm x 40mm rectangular plastic housing, 20mm sensing range, flush mount, 10 to 36 VDC, PNP, IP 67, normally open output with micro DC 4 pin M12 connector. Sensing direction selectable in 5 directions. **K=1 correction factor**	

IM5132	66mm x 40mm x 40mm rectangular plastic housing, 20mm sensing range, flush mount, 10 to 36 VDC, PNP, IP 67, normally open and normally closed output with micro DC 4 pin M12 connector. Sensing direction selectable in 5 directions. **K=1 correction factor**	
IN5225	40mm x 26mm plastic cube switch, 40mm long, two Sensors with 4mm sensing range non-flush mount, 10 to 36 VDC, PNP, 2 normally open outputs, IP 67 with micro DC 4 pin M12 connector.	
MVQ101	95 x 50 x 57 mm plastic position sensor for valve actuators; 3 normally open / normally closed (selectable) outputs, 10 to 30 VDC, PNP, IP 67 with micro DC 5 pin M12 connector.	
IY5036	5mm metal barrel, 41mm long, 1.5mm sensing range non-flush mount, 10 to 30 VDC, PNP, IP 67, normally open with pico DC 3 pin M8 connector.	
IY5048	5mm metal barrel, 41mm long, 1.5mm sensing range non-flush mount, 10 to 30 VDC, PNP, IP 67, normally open with pico DC 3 pin M8 connector.	
IT5040	6.5mm metal barrel, 30mm long, 3mm sensing range flush mount, 10 to 30 VDC, PNP, IP 67, normally open with pico DC 3 pin M8 connector.	
IT5041	6.5mm metal barrel, 30mm long, 4mm sensing range non-flush mount, 10 to 30 VDC, PNP, IP 67, normally open with pico DC 3 pin M8 connector.	
MK5107	Magnetic cylinder sensor, GMR cell T-slot mounting, plastic housing, 3-wire DC PNP, normally open output, 0.3m pigtail, IP 67 with micro DC 4 pin M12 connector.	
MK5139	Magnetic cylinder sensor, AMR cell T-slot mounting, plastic housing, 3-wire DC PNP, normally open output, 0.3m pigtail, IP 67 with micro DC 4 pin M12 connector.	
MK5304	Magnetic cylinder sensor GMR cell, C-slot mounting, plastic housing, 3-wire DC PNP, normally open output, 0.3m pigtail, IP 67 with micro DC 4 pin M12 connector.	
MK5314	Magnetic cylinder sensor AMR cell, C-slot mounting, plastic housing, 3-wire DC PNP, normally open output, 0.3m pigtail, IP 67 with micro DC 4 pin M12 connector.	

2.2 RING & TUBE SENSORS

ifm#	Description	Picture
I7R2**	Ring Sensor, 10- 35 VDC, PNP, 10 to 35 VDC, IP67, Programmable normally open or closed output with micro DC 4 pin M12 connector. **I7R201**: Static operation, 10.1 mm ring diameter **I7R205**: Static operation, 15.1 mm ring diameter **I7R209**: Static operation, 20.1 mm ring diameter **I7R213**: Static operation, 25.1 mm ring diameter **I7R217**: Static operation, 51 mm ring diameter	
I85002	Static operation Tube Sensor, 10- 35 VDC, PNP, 10 to 35 VDC, IP67, Normally open output with micro DC 4 pin M12 connector.	

2.3 MOUNTING BRACKETS

ifm #	Description	Picture
E10848	Mounting sleeve, M12 x 1 - Ø 8 mm, 32mm long	
E10849	Mounting sleeve, M12 x 1 - Ø 8 mm, 42mm long	
E10741	Mounting sleeve, M16 x 1 - Ø 12 mm, 45mm long	
E10742	Mounting sleeve, M24 x 1,5 – Ø 18 mm, 58mm long	
E10743	Mounting sleeve, M36 x 1 - Ø 30 mm, 58mm long	
E10806	Mounting sleeve, M16 x 1 - Ø 12 mm, 34mm long	
E10807	Mounting sleeve, M24 x 1,5 – Ø 18 mm, 36mm long	
E10808	Mounting sleeve, M36 x 1 - Ø 30 mm, 36mm long	
E11114	Mounting sleeve, M16 x 1 - Ø 12 mm, 31mm long	
E11115	Mounting sleeve, M22 x 1 – Ø 18 mm, 31mm long	
E11521	Mounting clamp, M8	
E11047	Mounting clamp, M12	
E11048	Mounting clamp, M18	

E11049	Mounting clamp, M30	

2.4 PHOTO-ELECTRIC, FIBER OPTIC AND LASER SWITCHES

ifm #	Description	Picture
OGE500	18mm stainless steel barrel, 72mm long transmitter, 25m sensing range, light-on / dark-on programmable via push button, 10 to 36 VDC, IP 67 with micro DC 4 pin M12 connector. **Need transmitter**.	
OGS500	18mm stainless steel barrel, 72mm long transmitter, 25m sensing range, 10 to 36 VDC, IP 67 with micro DC 4 pin M12 connector. **Need receiver.**	
OGP500	18mm stainless steel barrel, 72mm long, polarized retro-reflective sensor, 5m sensing range, 10 to 36 VDC PNP light or dark operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
OGP200	18mm stainless steel barrel, 60mm long, polarized retro-reflective sensor, 4m sensing range, 10 to 36 VDC PNP , dark operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
OGP201	18mm stainless steel barrel, 60mm long, polarized retro-reflective sensor, 4m sensing range, 10 to 36 VDC PNP light operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
OGH500	18mm stainless steel barrel, 72mm long, background suppressed diffuse reflective sensor, 300mm sensing range, 10 to 36 VDC PNP light or dark operate, IP 67 with micro DC 4 pin M12 connector.	
OGT500	18mm stainless steel barrel, 72mm long, diffuse reflective sensor, 600mm sensing range, 10 to 36 VDC PNP light or dark operate, IP 67 with micro DC 4 pin M12 connector.	
OGH200	18mm stainless steel barrel, 72mm long, background suppressed diffuse reflective sensor, 250mm sensing range, 10 to 36 VDC PNP light or dark operate, IP 67 with micro DC 4 pin M12 connector.	
OGP280	18mm x 35.4mm x 52mm cube metal connector and mount polarized retro-reflective opto switch, 4m sensing range, 10 to 36 VDC PNP, dark operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
OGP281	18mm x 35.4mm x 52mm cube metal connector and mount polarized retro-reflective opto switch, 4m sensing range, 10 to 36 VDC PNP, light operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
OGH280	18mm x 35.4mm x 52mm cube metal connector and mount background suppressed diffuse reflective opto switch, 100mm fixed sensing range, 10 to 36 VDC PNP, light operate, IP 67 with micro DC 4 pin M12 connector.	

OGH281	18mm x 35.4mm x 52mm cube metal connector and mount background suppressed diffuse reflective opto switch, 200mm fixed sensing range, 10 to 36 VDC PNP, light operate, IP 67 with micro DC 4 pin M12 connector.	
OGH580	18mm x 35.4mm x 52mm cube metal connector and mount background suppressed diffuse reflective opto switch, 15 to 200mm sensing range adjustable via pushbutton, 10 to 36 VDC PNP, light operate, IP 67 with micro DC 4 pin M12 connector.	
OPU200	Optical Fork Sensor, metal body, fork width – 10mm, fork depth -17mm, smallest detectable object - .3mm, 10 to 35 VDC PNP or NPN, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPU201	Optical Fork Sensor, metal body, fork width – 20mm, fork depth - 25mm, smallest detectable object - .4mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPU202	Optical Fork Sensor, metal body, fork width – 30mm, fork depth - 35mm, smallest detectable object - .5mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPU203	Optical Fork Sensor, metal body, fork width – 50mm, fork depth - 55mm, smallest detectable object - .5mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPU204	Optical Fork Sensor, metal body, fork width – 80mm, fork depth - 55mm, smallest detectable object - .5mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPU205	Optical Fork Sensor, metal body, fork width – 120mm, fork length (X) - 50mm, fork length (Y) - 50mm, smallest detectable object - .5mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPL200	Optical Angle Sensor, metal body, width (Z) – 60mm, fork depth (X) - 50mm, fork depth (Y) - 50mm, smallest detectable object - .8mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OPL201	Optical Angle Sensor, metal body, width (Z) – 100mm, fork depth (X) - 80mm, fork depth (Y) - 80mm, smallest detectable object - .7mm, 10 to 35 VDC PNP, light operate or dark operate, IP 67 with pico M8 3 pin connector.	
OGE700	18mm stainless steel barrel, 72 mm CLASS 1 laser receiver, up to 60m range, 10 to 36 VDC, PNP, light or dark operate, IP 67 with micro DC 4 pin M12 connector. **Need transmitter.**	
OGS700	18mm stainless steel barrel, 72 mm CLASS 1 laser transmitter, up to 60m range, 10 to 36 VDC, PNP, light or dark operate, IP 67 with micro DC 4 pin M12 connector. **Need receiver.**	
OGP700	18mm stainless steel barrel, 72 mm polarized retro-reflective CLASS 1 laser, up to 15m range, 10 to 36 VDC, PNP, light or dark operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
OGH700	18mm stainless steel barrel, 72 mm background suppressed diffuse reflective CLASS 1 laser, 20mm – 200mm range, 10 to 36 VDC, PNP, light or dark operate, IP 67 with micro DC 4 pin M12 connector.	

O1D100	Rectangular housing Class 2 LASER switch, diffuse-reflective, 200mm – 10m sensing range adjustable via pushbuttons, 18 to 30 VDC, 1 @ PNP, light or dark operate output, 1 @ programmable PNP, light or dark operate output or analog output, IP 67 with micro DC 4 pin M12 connector.	
O1D101	Rectangular housing Class 2 LASER switch, diffuse-reflective, 200mm – 10m sensing range adjustable via pushbuttons, 18 to 30 VDC, 1 @ PNP, light or dark operate output, 1 @ programmable PNP, light or dark operate output or analog output, IP 67 with micro DC 4 pin M12 connector. Background suppressed from > 10m – 100m.	
O1D155	Rectangular housing Class 1 LASER switch, diffuse-reflective, 200mm – 6m sensing range adjustable via pushbuttons, 18 to 30 VDC, 1 @ PNP, light or dark operate output, 1 @ programmable PNP, light or dark operate output or analog output, IP 67 with micro DC 4 pin M12 connector.	
O5P500	Rectangular 46.8mm x 70.3mm x 18.2mm plastic barrel, polarized retro-reflective, 75mm - 10m sensing range, 10 to 36 VDC, PNP, light or dark operate, IP 67 with micro DC 4 pin M12 connector. **Need reflector.**	
O5H500	Rectangular 46.8mm x 70.3mm x 18.2mm plastic barrel, diffuse-reflective background suppressed, 50mm - 1800mm sensing range, 10 to 36 VDC, PNP, light or dark operate, IP 67 with micro DC 4 pin M12 connector.	
O5Dxxx	Time of Flight, Rectangular 46.8mm x 70.3mm x 18.2mm plastic body receiver, diffuse-reflective, range dependent on part number, 18 to 30 VDC, 1 @ PNP light operate and 1 @ PNP dark operate outputs, IP 67 with micro DC 4 pin M12 connector. **Part # Description** **O5D100** Up to 2m range, Class 2 laser **O5D150** Up to 2m range, Class 1 laser	
O6E301	Rectangular 13mm x 21mm x 34.8mm metal barrel sensor receiver, up to 10m sensing range, 10 to 30 VDC, PNP, light or dark operate, IP 67, 68, 69K with micro DC 4 pin M12 connector (.3m) pigtail. **Need transmitter.**	
O6S301	Rectangular 13mm x 21mm x 34.8mm metal barrel sensor transmitter, up to 10m sensing range, 10 to 30 VDC, PNP, light or dark operate, IP 67, 68, 69K with micro DC 4 pin M12 connector (.3m) pigtail. **Need receiver.**	
O6P301	Rectangular 13mm x 21mm x 34.8mm metal barrel polarized retro-reflective sensor, up to 5m sensing range, 10 to 30 VDC, PNP, light or dark operate, IP 67, 68, 69K with micro DC 4 pin M12 connector (.3m) pigtail. **Need reflector.**	
O6T301	Rectangular 13mm x 21mm x 34.8mm metal barrel diffuse reflective sensor, 5 – 500mm sensing range, 10 to 30 VDC, PNP, light or dark operate, IP 67, 68, 69K with micro DC 4 pin M12 connector (.3m) pigtail.	
O6H301	Rectangular 13mm x 21mm x 34.8mm metal barrel, background suppressed diffuse reflective sensor, 2 – 200mm sensing range, 10 to 30 VDC, PNP, light or dark operate, IP 67, 68, 69K with micro DC 4 pin M12 connector (.3m) pigtail.	
O6x4xx	Rectangular 13mm x 21mm x 34.8mm metal barrel, 10 to 30 VDC, PNP, light or dark operate, IP 67, 68, 69K with .3m PUR pigtail cable with micro DC 4 pin M12 connector. **Machine Tool Version.** **O6E404**: Thru-beam receiver **O6S402**: Thru-beam transmitter **O6P404**: Polarized retro-reflective **O6H404**: Background suppressed, diffuse reflective **O6T404**: Diffuse reflective	
OGD580	Long range laser switch, cube stainless steel body style, 18mm barrel mounting on face, 36mm long, 2 programmable outputs settable from 30mm to 1500 mm, 10 to 30 VDC PNP light operate, IP 67 with micro DC 4 pin M12 connector.	

OGD592	High accuracy laser switch, cube stainless steel body style, 18mm barrel mounting on face, 36mm long, 2 programmable outputs settable from 30 mm to 300 mm, 10 to 30 VDC PNP light operate, IP 67 with micro DC 4 pin M12 connector.	
OPD100	PMD Profiler for object profile checking, 88mm x 65mm x 28.5 rectangular metal housing, 150 – 300mm range, 10 to 36 VDC, PNP, 2 configurable NO or NC outputs, with micro DC 4-pin connector.	

2.5 ULTRASONIC SWITCHES

ifm #	Description	Picture
UGTxxx	18mm metal barrel, diffuse reflective, 10 to 30 VDC, 1 @ PNP, light or dark operate programmable or IO Link output with micro DC 4 pin M12 connector. **Part # Sensing Range (mm)** **UGT524** 40 - 300 **UGT525** 60 - 800 **UGT526** 80 – 1200	
UGTxxx	18mm metal barrel, diffuse reflective, 10 to 30 VDC, 1 @ PNP, light or dark operate programmable or IO Link output with micro DC 4 pin M12 connector. **Part # Sensing Range (mm)** **UGT592** 40 - 300 **UGT593** 60 - 800 **UGT594** 80 – 1200	

2.6 PRESSURE SWITCHES

ifm #	Description	Picture
PN7xxx	2 color numerical display, 2 NO or NC, PNP or NPN outputs, female G1/4 BSPP Port, IP 67 with micro DC 4 pin M12 connector. **PN7160**: 0 – 600 bar **PN7070**: 0 – 400 bar **PN7071**: 0 – 250 bar **PN7092**: 0 – 100 bar **PN7093**: 0 – 25 bar **PN7094**: -1 – 10 bar **PN7096**: 0 – 2.5 bar **PN7097**: 0 – 1 bar **PN7099** -1000 – 1000 mbar **PY7094**: -1 – 10 bar – Preprogrammed set points and display software locked out.	
PN75xx	2 color numerical display, 2 NO or NC, PNP or NPN outputs, male G1/4 BSPP Port, IP 67 with micro DC 4 pin M12 connector. **PN7560**: 0 – 600 bar **PN7570**: 0 – 400 bar **PN7571**: 0 – 250 bar **PN7592**: 0 – 100 bar **PN7593**: 0 – 25 bar **PN7594**: -1 – 10 bar **PN7596**: 0 – 2.5 bar **PN7597**: 0 – 1 bar **PN7599** -1000 – 1000 mbar	
PN2xxx	2 color numerical display, 1 NO or NC output, 1 programmable NO / NC output or analog (0-10v / 4-20ma) analog output, female G1/4 BSPP Port, IP 67 with micro DC 4 pin M12 connector. **PN2160**: 0 – 600 bar **PN2070**: 0 – 400 bar **PN2071**: 0 – 250 bar **PN2092**: 0 – 100 bar **PN2093**: 0 – 25 bar **PN2094**: -1 – 10 bar **PN2096**: 0 – 2.5 bar **PN2097**: 0 – 1 bar **PN2098**: 0 – .25 bar **PN2099** -1000 – 1000 mbar	
PN25xx	2 color numerical display, 1 NO or NC output, 1 programmable NO / NC output or analog (0-10v / 4-20ma) analog output, male G1/4 BSPP Port, IP 67 with micro DC 4 pin M12 connector. **PN2560**: 0 – 600 bar **PN2570**: 0 – 400 bar **PN2571**: 0 – 250 bar **PN2592**: 0 – 100 bar **PN2593**: 0 – 25 bar **PN2594**: -1 – 10 bar **PN2596**: 0 – 2.5 bar **PN2597**: 0 – 1 bar **PN2598**: 0 – .25 bar **PN2599** -1000 – 1000 mbar	
PN7834	Numerical display with -.90 to 10 bar Set Point range, 2 NO or NC, PNP or NPN outputs, G1/8 Port, IP 65 with micro DC 4 pin M12 connector M12 connector with a 20 bar over-pressure limit. **Pneumatic applications only.**	
PN7809	Numerical display with -975 to 1000 mbar Set Point range, 2 NO or NC PNP or NPN outputs, G1/8 Port, IP 65 with micro DC 4 pin M12 connector with a 20000 mbar over-pressure limit. **Vacuum switch for pneumatic applications only.**	

PNI02x	Differential Pressure Switch. Numerical display with 2 NO or NC, PNP outputs, G1/4 BSPP Port, IP 65/67 with micro DC 8 pin M12 connector with a 400 bar over-pressure limit. **PNI021**: 0 – 250 bar **PNI022**: 0 – 100 bar **PNI023**: 0 – 25 bar **PNI024**: 0 – 10 bar **E11566**: 0 – 10 bar	
PA302x	Analog Pressure sensors, 4 - 20 ma output, G1/4 BSPP Port, IP 65/ 67 with micro DC 4 pin M12 connector. **PA3021**: 0 – 250 bar **PA3022**: 0 – 100 bar **PA3023**: 0 – 25 bar **PA3024**: 0 – 10 bar	
PS7570	Part Seated Pressure Switch. Numerical display, supply pressure 0.7 to 1.5 bar. 2 NO or NC, PNP or NPN outputs, IP 65 with micro DC 4 pin M12 connector.	
PN30xx	Numerical display, 1 NO or NC, PNP output, second output 0 – 10 VDC or 4 – 20 ma analog output, G1/4 BSPP female Port, IP 65 for 25 bar and below units, IP 67 for units 100 bar and above with micro DC 4 pin M12 connector. **PN3070**: 0 – 400 bar **PN3071**: 0 – 250 bar **PN3092**: 0 – 100 bar **PN3093**: 0 – 25 bar **PN3094**: 0 – 10 bar **PN3096**: 0 – 2.5 bar **PN3097** 0 – 1000 mbar	
PN35xx	Numerical display, 1 NO or NC, PNP output, second output 0 – 10 VDC or 4 – 20 ma analog output, G1/4 male BSPP Port, IP 65 for 25 bar and below units, IP 67 for units 100 bar and above with micro DC 4 pin M12 connector. **PN3570**: 0 – 400 bar **PN3571**: 0 – 250 bar **PN3592**: 0 – 100 bar **PN3593**: 0 – 25 bar **PN3594**: 0 – 10 bar **PN3596**: 0 – 2.5 bar **PN3597** 0 – 1000 mbar	
PK652x	No display, mechanical set and reset adjustment, 1 NO and 1 NC PNP output, G1/4 BSPP male Port, IP 67 with micro DC 4 pin M12 connector. **For use only on machinery going to Asia/Pacific Region plants** **PK6520**: 20 – 400 bar **PK6521**: 12.5 – 250 bar **PK6522**: 5 – 100 bar **PK6523**: 0 – 25 bar **PK6524**: 0 – 10 bar	
PG275x	Numerical gauge display, 1 NO or NC, PNP output, 1 @ 4 – 20ma analog output, 18-32 VDC, PNP or NPN operation, G 1 BSPP Port, IP 67 / IP 69K with micro DC 4 pin M12 connector. **PG2793**: -1 – 25 bar **PG2794**: -1 – 10 bar **PG2795**: -1 – 4 bar **PG2796**: -.124 – 2.5 bar **PG2797**: -.05 – 1.0 bar **PG2798**: -12.4 – 250 Mbar **PG2799**: -1.0 – 1.0 bar	

E10077	Mounting clamp for pressure switches.	

2.7 FLOW SWITCHES & METERS

ifm #	Description	Picture
SI5000	10 LED display, solid state operation, PNP normally open or normally closed output, micro 4 pin connector, 20 to 36 VDC, 30 bar over-pressure rating, quick response unit, IP 67 with micro DC 4 pin M12 connector. Operating range 3…300cm/sec. **Need mounting accessory.**	
SI5010	10 LED display, solid state operation, PNP normally open or normally closed output, micro 4 pin connector, 20 to 36 VDC, 300 bar over-pressure rating, standard response unit, IP 67 with micro DC 4 pin M12 connector. Operating range 3…300cm/sec. **Need mounting accessory.**	
SI5002	10 LED display, solid state operation, 2 PNP normally open or normally closed outputs, micro 4 pin connector, 20 to 36 VDC, 300 bar over-pressure rating, standard response unit, IP 67 with micro DC 4 pin M12 connector. Operating range 3…300cm/sec. **Need mounting accessory.**	
SI5004	10 LED display, solid state operation, 4-20 ma analog output, micro 4 pin connector, 20 to 36 VDC, 300 bar over-pressure rating, standard response unit, IP 67 with micro DC 4 pin M12 connector. Operating range 3…300cm/sec. **Need mounting accessory.**	
E40096	G ½ Adapter for SI5 flow switches.	
E40099	G ¼ Adapter for SI5 flow switches.	
SMx020	Magnetic Inductive Flow Meter, Output 1: Digital, Frequency, Pulse or IO Link. Output 2: Digital or 0-10V / 4-20 ma analog output for flow or temperature, 16 bar pressure rating -20° to 90°C media, 19 to 30 VDC, IP 67 with 4 pin micro M12 connector. **Conductive medias only.** **SM6020** Connection: G ½ .05 – 35 l/min range **SM7020** Connection: G ¾ 0.1 – 75 l/min range **SM8020** Connection: G 1 0.2 – 150 l/min range	
SM9000	Magnetic Inductive Flow Meter, 0 to 300l/min measuring range, 1 NO or NC PNP or NPN or output or pulse output, 1 programmable output as a second PNP or NPN output, 0-10V or 4-20 ma analog output **for flow or temperature**, 16 bar pressure rating -10° to 70°C media, 19 to 36 VDC, IP 67 with 4 pin micro M12 connector, G2 flat seal process connection. **Conductive medias only.**	
SM2000	Magnetic Inductive Flow Meter, 5 to 600l/min measuring range, 1 NO or NC PNP or NPN or output or pulse output, 1 programmable output as a second PNP or NPN output, 0-10V or 4-20 ma analog output **for flow or temperature**, 16 bar pressure rating -10° to 70°C media, 19 to 36 VDC, IP 67 with 4 pin micro M12 connector, G2 flat seal process connection. **Conductive medias only.**	
SU7000	Ultrasonic Flow Meter, 0 to 50 l/min measuring range, 1 NO or NC PNP or NPN or output or pulse output, 1 programmable output as a second PNP or NPN output, 0-10V or 4-20 ma analog output **for flow or temperature**, 16 bar pressure rating -10° to 80°C media, 19 to 36 VDC, IP 67 with 4 pin micro M12 connector, G3/4 flat seal process connection. **Use in water, coolants, glycol and oil.**	
SU8000	Ultrasonic Flow Meter, 0 to 100 l/min measuring range, 1 NO or NC PNP or NPN or output or pulse output, 1 programmable output as a second PNP or NPN output, 0-10V or 4-20 ma analog output **for flow or temperature**, 16 bar pressure rating -10° to 80°C media, 19 to 36 VDC, IP 67 with 4 pin micro M12 connector, G1 flat seal process connection. **Use in water, coolants, glycol and oil.**	

SU9000	Ultrasonic Flow Meter, 0 to 200 l/min measuring range, 1 NO or NC PNP or NPN or output or pulse output, 1 programmable output as a second PNP or NPN output, 0-10V or 4-20 ma analog output **for flow or temperature**, 16 bar pressure rating -10° to 80°C media, 19 to 36 VDC, IP 67 with 4 pin micro M12 connector, G2 flat seal process connection. **Use in water, coolants, glycol and oil.**	
SBU323	Flow monitor, Process connection: G½, 3-wire, DC PNP, Operating voltage: 24 V DC (-15% / +10%), Current consumption: 15 mA, normally open, Quick disconnect, M12 connector, Switch point adjustable by knurled screw, Measuring range, max. 25 l/min	
SBU324	Flow monitor, Process connection: G½, 3-wire, DC PNP, Operating voltage: 24 V DC (-15% / +10%), Current consumption: 15 mA, normally open, Quick disconnect, M12 connector, Switch point adjustable by knurled screw, Measuring range, max. 50 l/min	
SBU325	Flow monitor, Process connection: G½, 3-wire, DC PNP, Operating voltage: 24 V DC (-15% / +10%), Current consumption: 15 mA, normally open, Quick disconnect, M12 connector, Switch point adjustable by knurled screw, Measuring range, max. 75 l/min	
SBGxxx	Mechatronic flow meter, Output 1: Digital, Frequency, or IO Link. Output 2: Digital or 4-20 ma analog output for flow or temperature, 40 bar pressure rating -20° to 100°C media, 19 to 30 VDC, IP 67 with 4 pin micro M12 connector. **For water, glycol solutions, coolants and oils.** **SBG232** Connection: G ½ .3 – 15 l/min range **SBG233** Connection: G ½ .5 – 25 l/min range **SBG234** Connection: G ½ 1 – 50 l/min range **SBG246** Connection: G ¾ 2 – 100 l/min range **SBG257** Connection: G ¾ 4 – 200 l/min range	
SDx500	Magnetic Inductive Flow Meter, Output 1: Digital, Frequency, Pulse or IO Link. Output 2: Digital or 0-10V / 4-20 ma analog output for flow or temperature, 16 bar pressure rating -20° to 90°C media, 19 to 30 VDC, IP 67 with 4 pin micro M12 connector. **Conductive medias only.** **SM6020** Connection: G ½ .05 – 35 l/min range **SM7020** Connection: G ¾ 0.1 – 75 l/min range **SM8020** Connection: G 1 0.2 – 150 l/min range	
SAxxxx	Thermal flow sensor with numerical display, 1 NO or NC discrete output, second output programmable discrete or 4 – 20ma analog output, 18-30 VDC, PNP or NPN operation, IP 67 with micro DC 4 pin M12 connector. Monitors coolant / water, oils or air, capable of temperature monitoring also. Displayed units: %, m/s, l/min, m³/h, °C, 10³. For 15mm – 400mm pipe diameters. **SA2000**: G1/2 BSPP male process connector. **SA2004**: G1/2 BSPP male process connector. **SA5000**: M18 x 1.5 process connector. **Mounting accessories needed** **SA4100**: 100 mm long probe with compression fitting. **Mounting accessories needed** **SA4300**: 200 mm long probe with compression fitting. **Mounting accessories needed**	
SDx500	**Air Flow Meter**, Output 1: NO or NC PNP or NPN, pulse output or IO Link. Output 2: PNP or NPN output, 0-10V or 4-20 ma analog output for **flow, pressure or temperature**, -10° to 60°C, -1 – 16 bar pressure, 18 to 30 VDC, IP 67 with 4 pin micro M12 connector. **SD5500** Connection: G ¼ .8 – 250 l/min range **SD6500** Connection: R ½ 4 – 1250 l/min range **SD8500** Connection: R 1 14 – 3750 l/min range **SD9500** Connection: R 1 ½ 20 – 6830 l/min range **SD2500** Connection: R 2 40 – 11,670 l/min range	

2.8 TEMPERATURE SWITCHES

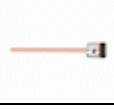
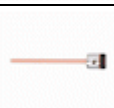
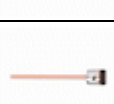
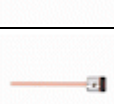
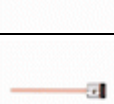
ifm #	Description	Picture
TR7439	Numerical display control monitor with -100 to 600°C Set Point range, 2 NO or NC PNP or NPN outputs, 18 to 32 VDC, IP 67 with 4 pin micro M12 connector. Need RTD and mounting accessories.	
TR2439	Numerical display control monitor with -100° to 600°C Set Point range, 1 NO or NC PNP output, 1 programmable output as PNP output or 0-10V or 4-20 ma analog output,18 to 32 VDC, IP 67 with 4 pin micro M12 connector. Need RTD and mounting accessories.	
TNx511	Self contained numerical display control monitor with -40° to 150°C deg F Set Point range, 18 to 30 VDC, IP 67 with 4 pin micro M12 connector. Need mounting accessories. **TN7511**: 2 NO or NC PNP or NPN outputs **TN2511**: 1 NO or NC PNP output, 1 programmable 0-10V or 4-20 ma analog output	
TS2069	Temperature sensor for connection to evaluation units, Measuring range: -40...90 °C / -40...194 °F, Measuring probes, Cable with connector, 2 m, PUR cable, gold-plated contacts, Housing material: high-grade stainless steel, Materials (wetted parts): stainless steel 316L / 1.4404	
TT1081	160mm long Pt100 RTD probe, 100mm usable length with micro 4 pin M12 connector, 40° to 150°C temperature range, T05 / 09 temperature response 1 / 3 seconds, 10mm diameter.	
TT2081	260mm long Pt100 RTD probe, 200mm usable length with micro 4 pin M12 connector, 40° to 150°C temperature range, T05 / 09 temperature response 1 / 3 seconds, 10mm diameter.	
TT3081	360mm long Pt100 RTD probe, 300mm usable length with micro 4 pin M12 connector, 40° to 150°C temperature range, T05 / 09 temperature response 1 / 3 seconds, 10mm diameter.	
TT5081	560mm long Pt100 RTD probe, 500mm usable length with micro 4 pin M12 connector, 40° to 150°C temperature range, T05 / 09 temperature response 1 / 3 seconds, 10mm diameter.	
E30016	G ½ BSPP compression ring fitting for 10mm diameter probes.	
E30017	Mounting set for TT unit.	
E35010	Thermowell for temperature sensors Ø 10 mm - G ½ 82 mm	
E35020	Thermowell for temperature sensors Ø 10 mm - G ½ 182 mm	
E35030	Thermowell for temperature sensors Ø 10 mm - G ½ 282 mm	

E35050	Thermowell for temperature sensors Ø 10 mm - G ½ 482 mm	

2.9 LEVEL SWITCHES

ifm #	Description	Picture
LR7000	Guided Wave Radar level Sensor, numerical display, 150mm to 1600mm probe length, 2 NO or NC PNP outputs, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LR8000	Guided Wave Radar level Sensor, numerical display, 150mm to 1600mm probe length, 4 NO or NC PNP outputs, 12 to 30 VDC, IP 67 with 8 pin micro M12 connector.	
LR3000	Guided Wave Radar level Sensor, numerical display, 150mm to 1600mm probe length, 1 NO or NC PNP output, 1 0-10V or 4-20 ma analog output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LR2050	Guided Wave Radar level Sensor, numerical display, 150mm to 2000mm probe length, 1 NO or NC PNP output, 1 programmable output as PNP output or 0-10V or 4-20 ma analog output, 18 to 30 VDC, IP 67 with 4 pin micro M12 connector. 3 button programming, SS housing.	
E43203	240 mm long probe for LR	
E43204	450 mm long probe for LR	
E43205	700 mm long probe for LR7000 & LR8000	
E43207	1000mm long probe for LR7000 & LR8000	
E43208	1200mm long probe for LR7000 & LR8000	
E43209	1400mm long probe for LR7000 & LR8000	
E43210	1600mm long probe for LR7000 & LR8000	

E43202	Stainless Steel flange plate for LR. 1600mm long probe for LR7000 & LR8000	
LI5141	Binary level sensor, 132 mm probe length, 1 PNP NO or NC programmable output, 10-36 VDC with 4 pin micro M12 connector.	
LI2141	Binary level sensor, 132 mm probe length, 1 PNP NO or NC programmable output, 10-36 VDC with 4 pin micro M12 connector. **Approved as overflow protection to the German Federal Water Act (WHG) section 19.**	
LI2142	Binary level sensor, 273 mm probe length, 1 PNP Normally closed output, 10-36 VDC with 4 pin micro M12 connector. **Approved as overflow protection to the German Federal Water Act (WHG) section 19.**	
LI2143	Binary level sensor, 481 mm probe length, 1 PNP NO or NC programmable output, 10-36 VDC with 4 pin micro M12 connector. **Approved as overflow protection to the German Federal Water Act (WHG) section 19.**	
LMC1xx	Point level sensor, 316L stainless steel housing with PEEK tip, DC PNP, programmable NO or NC output with 4 pin M12 connector. Factory output setting complimentary normally open and closed output. G ½ mounting on front of switch. **Part # Insertion length(mm) Factory Media Setting** **LMC100** 12 Water based fluids **LMC110** 38 Oil based fluids	
LMC4xx	Point level sensor, 316L stainless steel housing with PEEK tip, DC PNP, programmable NO or NC output with 4 pin M12 connector. Factory output setting complimentary normally open and closed output. G ½ mounting at back of switch. **Part # Factory Media Setting** **LMC400** Water based fluids **LMC410** Oil based fluids	
LMC502	Point level switch programmable for water, water-based media, oils, oil-based media, powdery media. 2 @ PNP N.O. or N.C outputs. ½" NPT process connection for overfill protection applications	
LK1022	Numerical display, 264mm probe length, 195mm active zone, 1 NO or NC PNP output, 1 overflow protection NO or NC PNP output, 12 to 30 VDC IP 67 with 4 pin micro M12 connector.	
LK1023	Numerical display, 472mm probe length, 390mm active zone, 1 NO or NC PNP outputs, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LK1024	Numerical display, 728mm probe length, 585mm active zone, 1 NO or NC PNP outputs, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LK8122	Numerical display, 264mm probe length, 195mm active zone, 3 NO or NC PNP outputs, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 8 pin micro M12 connector.	
LK8123	Numerical display, 472mm probe length, 390mm active zone, 3 NO or NC PNP outputs, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	

LK8124	Numerical display, 728mm probe length, 585mm active zone, 3 NO or NC PNP outputs, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 8 pin micro M12 connector.	
LK3122	Numerical display, 264mm probe length, 195mm active zone, one 4 - 20 ma or 0 - 10 VDC analog output, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LK3123	Numerical display, 472mm probe length, 390mm active zone, one 4 - 20 ma or 0 - 10 VDC analog output, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LK3124	Numerical display, 728mm probe length, 585mm active zone, one 4 - 20 ma or 0 - 10 VDC analog output, 1 overflow protection NO or NC PNP output, 12 to 30 VDC, IP 67 with 4 pin micro M12 connector.	
LT8022	Level and temperature switch, numerical display, 264mm probe length, 195mm active zone, -10° to 60°C temperature monitoring, 4 @ PNP NO or NC outputs of type 2 @ level, 2 @ temperature, 12 to 30 VDC, IP 68 with 8 pin micro M12 connector.	
LT8023	Level and temperature switch, numerical display, 472mm probe length, 390mm active zone, -10° to 60°C temperature monitoring, 4 @ PNP NO or NC outputs of type 2 @ level, 2 @ temperature, 12 to 30 VDC, IP 67 with 8 pin micro M12 connector..	
LT8024	Level and temperature switch, 728mm probe length, 585mm active zone, -10° to 60°C temperature monitoring, 4 @ PNP NO or NC outputs of type 2 @ level, 2 @ temperature, 12 to 30 VDC, IP 67 with 8 pin micro M12 connector.	
E43003	G3/4 BSPP mounting adapter for LK switches.	
E43004	G1 BSPP mounting adapter for LK switches.	
E43001	Flange adapter for LK switches	
E11627	8 Pin female M12 Micro DC connector splitter for LT8 and LK8 switches to 2 @ 4 pin male connectors.	

2.10 OIL PARTICLE, MOISTURE AND CONDUCTIVITY SWITCHES

ifm #	Description	Picture
LDH100	Oil humidity sensor, no display, G 3/4 process connection, 2 4-20 ma analog outputs monitoring relative humidity and temperature, 9 to 33 VDC, IP 67 with 8 pin micro M12 connector.	
LDP100	Photoelectric particle counter, for oil applications, M16 x 2 process connection, 1 digital and 1 @ 4-20 ma analog outputs, 9 to 33 VDC, IP 67 with 8 pin micro M12 connector.	
LDL100	Conductivity sensor, G ½ process connection, 1 @ IO Link and 1 @ analog output, 18 to 30 VDC, IP 68 & 69K with 4 pin M12 Connector. Measuring range of 100....15,000 µS/cm	
LDL200	Conductivity sensor, G 1 process connection, 1 @ IO Link and 1 @ analog output, 18 to 30 VDC, IP 68 & 69K with 4 pin M12 Connector. Measuring range of 100...1000000 µS/cm	

2.11 SAFETY SWITCHES

ifm #	Description	Picture
GF711S	Fail-safe inductive sensor, M 12 x 1, Metal thread, non-flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30 V DC), Quick disconnect, M12 connector, Complies with the requirements:, SIL 2 (IEC 61508), SILcl 2 (IEC 62061)	
GG712S	Fail-safe inductive sensor, M 18 x 1, Metal thread, flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30 V DC), Quick disconnect, M12 connector, Complies with the requirements:, SIL 2 (IEC 61508), SILcl 2 (IEC 62061)	
GM701S	Fail-safe inductive sensor, Rectangular, plastics, non-flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30), Current consumption: 15 mA, Quick disconnect, M12 connector, Category 4 (EN 954-1) PDF-M (EN 60947-5-3), Complies with the requirements:, SIL 3 (IEC 61508). 10mm – 15mm enable zone.	
GM705S	Fail-safe inductive sensor, non-flush mountable, 4-wire, DC PNP, Operating voltage: 24 V DC (19,2...30 V DC), Current consumption: 30 mA, 2 x OSSD (A1 and A2), M12 connector, M12 connector, Housing material: PPE diecast zinc. 4mm – 20mm enable zone.	
GI711S	Fail-safe inductive sensor, M30 x 1,5, Metal thread, non-flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30 V DC), Quick disconnect, M12 connector, Complies with the requirements:, SIL 2 (IEC 61508), SILcl 2 (IEC 62061)	
GI712S	Fail-safe inductive sensor, M30 x 1,5, Metal thread, flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30 V DC), Quick disconnect, M12 connector, Complies with the requirements:, SIL 2 (IEC 61508), SILcl 2 (IEC 62061)	
GI701S	Fail-safe inductive sensor, M30 x 1,5, Threaded type, non-flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30 V DC), Quick disconnect, M12 connector, Complies with the requirements:, SIL 3 (IEC 61508), SILcl 3 (IEC 62061)	
GG505S	Fail-safe inductive sensor, M18 x 1, Metal thread, non-flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30 V DC), Current consumption: 15 mA, Quick disconnect, M12 connector, Complies with the requirements:, ISO 13849-1:2008 category 4 PL e	

GI5002	Fail-safe inductive sensor, M30 x 1,5, Metal thread, flush mountable, 4-wire, DC, Operating voltage: 18...30 V DC, Current consumption: 15 mA, Quick disconnect, M12 connector, (Tolerance ≤ 10 %), Category 3 (EN 954-1) PDF-S (EN 60947-5-3)	
GM504S	Fail-safe inductive sensor, Rectangular, plastics, flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30), Current consumption: 15 mA, Quick disconnect, M12 connector, Complies with the requirements:, ISO 13849-1:2008 category 4 PL e, SIL 3 (IEC 61508)	
GM505S	Fail-safe inductive sensor, Rectangular, plastics, non-flush mountable, 4-wire, DC, Operating voltage: 24 V DC (19,2...30), Current consumption: 15 mA, Quick disconnect, M12 connector, Complies with the requirements:, ISO 13849-1:2008 category 4 PL e, SIL 3 (IEC 61508)	
MN700S	RFID-coded safety sensor, Sensing range: 12 mm, non-flush mountable, 5-wire, DC PNP, Operating voltage: 20,4...26,4 V DC, Current consumption: 50 mA, 2 x OSSD, 1 x PNP, Quick disconnect, M12 connector, Coded target, Housing material: PA connector: stainless steel (1.4301)	
MN701S	RFID-coded safety sensor, Sensing range: 12 mm, non-flush mountable, 8-wire, DC PNP, Operating voltage: 20,4...26,4 V DC, Current consumption: 50 mA, 2 x OSSD, 1 x PNP, Quick disconnect, M12 connector, Uniquely coded actuator, Housing material: PA connector: stainless steel (1.4301)	
MN702S	RFID-coded safety sensor, Sensing range: 12 mm, non-flush mountable, 8-wire, DC PNP, Operating voltage: 20,4...26,4 V DC, Current consumption: 50 mA, 2 x OSSD, 1 x PNP, Quick disconnect, M12 connector, Codable actuator, Housing material: PA connector: stainless steel (1.4301)	

2.12 SPEED MONITOR

ifm #	Description	Picture
DD2503	MONITOR, Nominal voltage: 110...240 V AC (50...60 Hz) / 27 V DC (typ. 24 V DC), dual-chamber terminals 2 x 2.5 mm² (2 x AWG 14), 2 relay outputs, 2 transistor outputs, Analog output, 0/4...20 mA, programmable, Test function without external frequency, Key function, Housing material: plastics	

2.13 VIBRATION SWITCHES

ifm #	Description	Picture
VSA001	Vibration sensor, Operating voltage: 9 V DC, Current consumption: 15 mA, 0...10mA, analogue, Quick disconnect, M12 connector, for connection to external diagnostic electronics, Housing material: housing: stainless steel 316L / 1.4404	
VSA002	Vibration sensor, Operating voltage: 9 V DC, Current consumption: 15 mA, Cable with connector, PUR-cable with M12 connector, for connection to external diagnostic electronics, Housing material: housing: stainless steel 316L / 1.4404	
VSA004	Vibration sensor, Operating voltage: 9 V DC, Current consumption: 15 mA, Cable, PUR cable, for connection to external diagnostic electronics type VSExxx, Housing material: housing: stainless steel 316L / 1.4404	
VSA005	Vibration sensor, Operating voltage: 9 V DC, Current consumption: 15 mA, Cable, PUR cable, for connection to external diagnostic electronics type VSExxx, Housing material: housing: stainless steel 316L / 1.4404	
VSE002	Diagnostic electronics for vibration sensors, Operating voltage: 24 V DC ± 20 %)*, Current consumption: 100 (24 V) mA, 2 digital alarm outputs (PNP 100 mA) or 1 digital output and 1 analog output 0/4...20/22 mA, Combicon connection, Combicon, Ethernet interface, Housing material: PA	
VSE100	Diagnostic electronics for vibration sensors, Operating voltage: 24 V DC ± 20 %, Current consumption: 100 (24 V) mA, 2x digital alarm outputs (PNP 100 mA) or 1x digital alarm output + 1x analogue output 0/4...20/22 mA / 0...10 V 8x digital outputs/inputs (freely configurable) (PNP 100 mA), Combicon connection, Combicon, 4 sensor inputs 0...10 mA, Ethernet interface, Housing material: PA	
VSE1xx	**Vibration Control Monitor,** systems for vibration monitoring and diagnostics, diagnostic edge controller. **VSE150** PROFINET protocol **VSE151** EtherNet/IP protocol