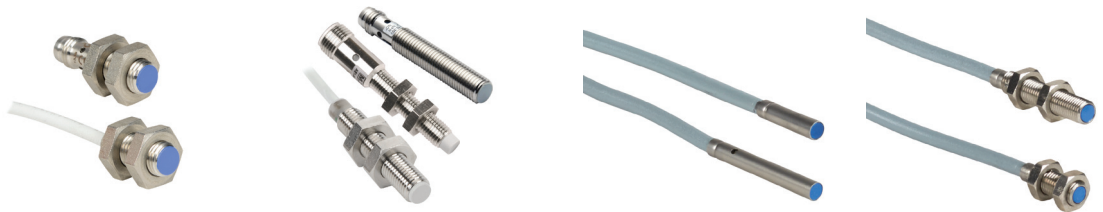


# Proximity Sensor Selection Guide

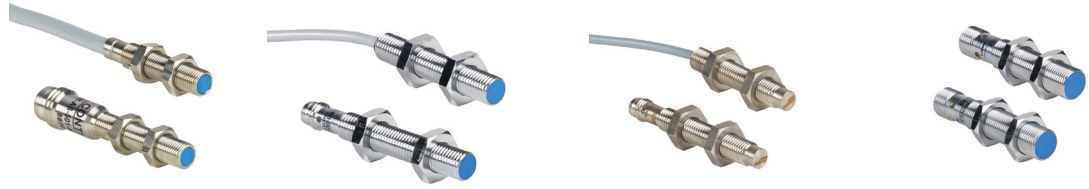


Proximity Sensor Selection Guide					
Specification	PY3 Stainless Steel DC	PY4 Stainless Steel DC	AC1 Stainless Steel DC	PD Stainless Steel DC	AHS Stainless Steel DC
<b>Description</b>	Miniature inductive proximity sensors, 3mm DC, stainless steel	Miniature inductive proximity sensors, 4mm DC, stainless steel	Miniature inductive proximity sensors, 4mm DC, stainless steel	Miniature inductive proximity sensors, 5mm, DC, stainless steel	Miniature inductive proximity sensors, 6.5 mm, DC, stainless steel
<b>Sensing Distances</b>	Standard distance: 0.6 mm Extended distance: 1.0 mm	Standard distance: 0.6 mm Extended distance: 1.0 mm	Standard distance: 0.8 mm Extended distance: 1.5 mm	Standard distance: 0.8 mm Extended distance: 1.5 mm	Standard distance: 1.5 mm Extended distance: 2.0 mm
<b>Output State</b>	N.O.	N.O.	N.O./N.C.	N.O.	N.O./N.C.
<b>Logic Output</b>	NPN / PNP	NPN / PNP	NPN / PNP	NPN / PNP	NPN / PNP
<b>Connection Type</b>	Axial cable	Axial cable	Axial cable / M8 connector	Axial cable / M8 connector	Axial cable / M8 connector
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	Standard distance: 5kHz	Extended distance: 3kHz	Standard and extended distance: 7kHz	Standard distance: 5kHz Extended distance: 3kHz	Standard and extended distance: 7kHz
<b>Protection Degree</b>	IEC-IP67	IEC-IP67	IEC-IP67	IEC-IP67	IEC-IP67



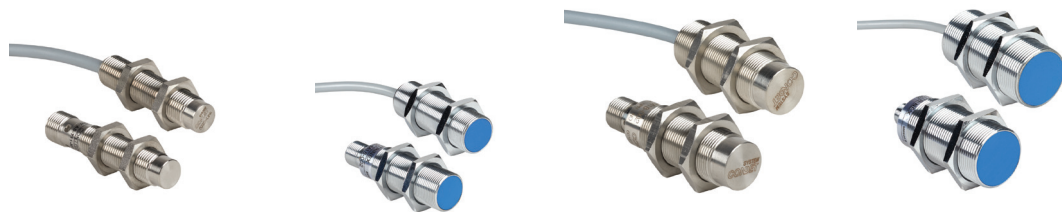
Proximity Sensor Selection Guide (continued)				
Specifications	AES Stainless Steel DC	AE1/AE6 Series DC	DW 3mm Stainless Steel DC	DW 4mm Stainless Steel DC
<b>Description</b>	Inductive proximity sensors, 8mm, DC, stainless steel	Inductive proximity sensors, 8mm, DC, nickel or chrome-plated brass	Inductive proximity sensors, 3mm, tubular stainless steel	Inductive proximity sensors, 4mm, tubular stainless steel
<b>Sensing Distances</b>	Standard distance: 1.5 mm Extended distance: 2mm	Standard distance 1.5 mm - 2.5 mm Extended distance 2.0 mm - 4.0 mm Triple distance 3.0 mm	1mm	2.5 mm
<b>Output State</b>	N.O./N.C.	N.O.	N.O. or N.C.	N.O. or N.C.
<b>Logic Output</b>	NPN / PNP	NPN / PNP	NPN or PNP	NPN or PNP
<b>Connection Type</b>	Axial cable / M8 connector	Axial cable / M12 connector	2m cable	2m cable or M8 quick-disconnect
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	Standard and extended distance: 7kHz	Flush: 3 kHz Non-flush: 2.5 kHz	3kHz	Extended distance: 8kHz or 3kHz Triple distance: 800Hz
<b>Protection Degree</b>	IEC-IP67	IEC-IP67	IP67	IP67

# Proximity Sensor Selection Guide



## Proximity Sensor Selection Guide (continued)

Specifications	DW 5mm Nickel Silver DC	DW 8mm Nickel Silver/ Chrome-Plated Brass DC	DW 8mm Full Stainless Steel DC	DW 12mm Chrome-Plated Brass DC
<b>Description</b>	Inductive proximity sensors, 5mm, tubular nickel silver	Inductive proximity sensors, 8mm, tubular nickel silver or chrome-plated brass	Inductive proximity sensors, 8mm, tubular stainless steel	Inductive proximity sensors, 12mm, tubular chrome-plated brass
<b>Sensing Distances</b>	2.5 mm	Semi-flush: 3mm Non-flush: 6mm	Non-flush: 6mm	Semi-flush: 6mm Non-flush: 10mm
<b>Output State</b>	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
<b>Logic Output</b>	NPN or PNP	NPN or PNP	NPN or PNP	NPN or PNP
<b>Connection Type</b>	2m cable or M8 quick-disconnect	2m cable/M8 or M12 quick-disconnect	2m cable/M8 or M12 quick-disconnect	2m cable or M12 quick-disconnect
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	Flush: 800Hz	Semi-flush: 1kHz Non-flush: 500Hz	Non-flush: 700Hz	Semi-flush: 800Hz Non-flush: 400Hz
<b>Protection Degree</b>	IP67	IP67	IP67/IP68	IP67



## Proximity Sensor Selection Guide (continued)

Specifications	DW 12mm Full Stainless Steel DC	DW 18mm Chrome-Plated Brass DC	DW 18mm Full Stainless Steel DC	DW 30mm Chrome-Plated Brass DC
<b>Description</b>	Inductive proximity sensors, 12mm, tubular stainless steel	Inductive proximity sensors, 18mm, tubular chrome-plated brass	Inductive proximity sensors, 18mm, tubular stainless steel	Inductive proximity sensors, 30mm, tubular chrome-plated brass
<b>Sensing Distances</b>	Non-flush: 10mm	Semi-flush: 12mm Non-flush: 20mm	Non-flush: 20mm	Semi-flush: 22mm Non-flush: 40mm
<b>Output State</b>	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
<b>Logic Output</b>	NPN or PNP	NPN or PNP	NPN or PNP	NPN or PNP
<b>Connection Type</b>	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	Non-flush: 400Hz	Semi-flush: 600Hz Non-flush: 500Hz	Non-flush: 200Hz	Semi-flush: 200Hz Non-flush: 100Hz
<b>Protection Degree</b>	IP68/IP69K	IP67	IP68/IP69K	IP67

# Proximity Sensor Selection Guide



Proximity Sensor Selection Guide (continued)					
Specifications	DW 30mm Full Stainless Steel DC	DW 20 x 32mm Rectangular DC	KS K-Factor 1	WK K-Factor 1 and Weld Slag Resistant	WS Weld Slag Resistant
<b>Description</b>	Inductive proximity sensors, 30mm, tubular stainless steel	Inductive proximity sensors, 20x32 mm, rectangular stainless steel	Inductive proximity sensors, 8,12,18, 30mm stainless steel	Inductive proximity sensors, 8, 12,18, 30mm weld coated brass	Inductive proximity sensors, 8, 12,18, 30mm weld coated stainless steel
<b>Sensing Distances</b>	Non-flush: 40mm	Flush: 7mm	Flush: 3, 4, 8, 15mm Non-flush: 6, 10, 12, 15, 30mm	Flush: 3, 4, 8, 15mm Non-flush: 6, 8, 12mm	Flush: 2, 4, 6, 8, 12, 15mm
<b>Output State</b>	N.O. or N.C.	N.O.	N.O.	N.O.	N.O.
<b>Logic Output</b>	NPN or PNP	NPN or PNP	PNP	PNP	NPN / PNP
<b>Connection Type</b>	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect	3-pin M8 quick-disconnect or 4-pin M12 quick-disconnect	3-pin M8 quick-disconnect or 4-pin M12 quick-disconnect	4-pin M12, 3m axial cable or 4-pin M12 quick-disconnect
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	Non-flush: 90Hz	Non-flush: 180Hz	Flush/Non-flush: 2000 Hz	Flush/Non-flush: 2000 Hz	Flush: 2, 25, 50, 75, 100, 150, 2000Hz
<b>Protection Degree</b>	IP68/IP69K	IP68/IP69K	IP65 / IP66 / IP67 / IP68 / IP69K	IP65 / IP66 / IP67 / IP68 / IP69K	IP65 / IP66 / IP67 / IP68 / IP69K



Proximity Sensor Selection Guide (continued)			
Specifications	PNM 12mm DC	PNK 18mm DC	PNT 30mm DC
<b>Description</b>	Inductive proximity sensors, 12mm, DC, metal	Inductive proximity sensors, 18mm, DC, metal	Inductive proximity sensors, 30mm, DC, metal
<b>Sensing Distances</b>	Flush: 4mm Non-flush: 7mm	Flush: 8mm Non-flush: 12mm	Flush: 15mm Non-flush: 22mm
<b>Output State</b>	N.O., N.C.	N.O., N.C.	N.O., N.C.
<b>Logic Output</b>	NPN / PNP	NPN / PNP	NPN / PNP
<b>Connection Type</b>	Axial cable / M12 connector	Axial cable / M12 connector	Axial cable / M12 connector
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	3-wire: 700Hz	Flush: 3-wire: 400Hz Non-flush: 3-wire: 300Hz	3-wire: 100Hz
<b>Protection Degree</b>	IP65 / IP66 / IP67 / IP68 / IP69K	IP65 / IP66 / IP67 / IP68 / IP69K	IP65 / IP66 / IP67 / IP68 / IP69K

# Proximity Sensor Selection Guide

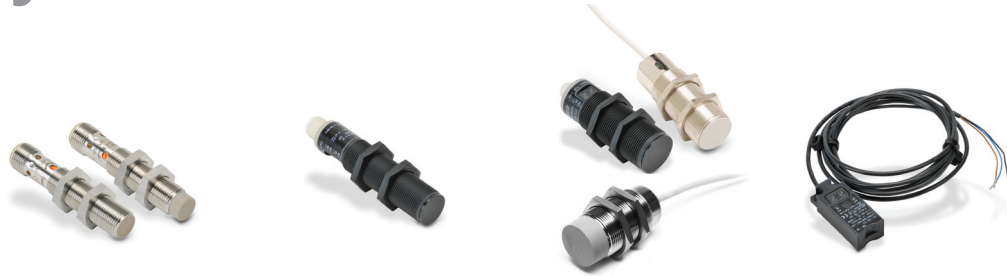


Proximity Sensor Selection Guide (continued)					
Specifications	CR5 Rectangular DC	CR8 Rectangular DC	LF40 Rectangular DC	DR10 Rectangular DC	APS Rectangular DC
<b>Description</b>	5 x 5 rectangular inductive proximity sensors, DC, metal	8 x 8 rectangular inductive proximity sensors, DC, metal	40 x 40 x 66 rectangular inductive proximity sensors, DC, plastic	10 x 16 rectangular inductive prox sensor, DC, plastic	12 x 27 / 8 x 26.5 mm compact rectangular inductive proximity sensor; DC, plastic
<b>Sensing Distances</b>	Standard: 0.8 mm Extended distance: 1.5 mm	Standard distance: 0 to 1.5 mm Extended distance: 0 to 2 mm Triple distance: 3mm	Flush: 20mm Non-flush: 35mm	Flush: 3mm Non-flush: 6mm	2.5 mm, 4mm
<b>Output State</b>	N.O.	N.O.	N.O.; N.O. / N.C. Complementary	N.O.	N.O./N.C.
<b>Logic Output</b>	NPN / PNP	NPN / PNP	PNP	NPN/ PNP	NPN/ PNP, NPN, PNP
<b>Connection Type</b>	Axial cable / M8 connector	Axial cable / M8 connector	M12 connector	Axial cable / M8 connector	Axial cable
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 36 VDC	10 to 30 VDC	10-30 VDC
<b>Switching Frequency</b>	Standard distance: 5kHz Extended distance: 3kHz	1kHz	Flush: 100Hz Non-flush: 80Hz	3kHz	200Hz/500Hz
<b>Protection Degree</b>	IEC-IP67	IEC-IP67	IEC-IP67	IEC-IP67	IEC-IP67

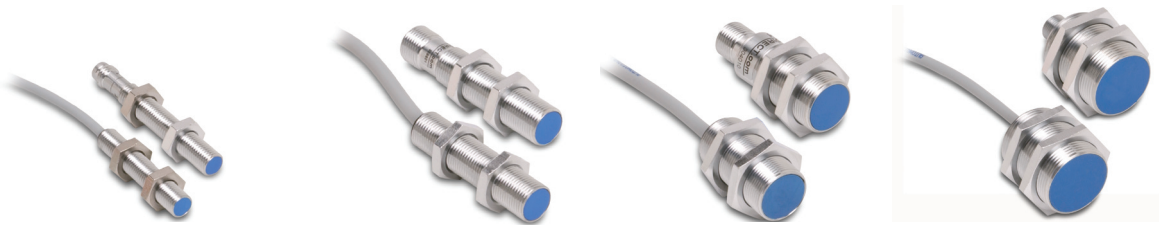


Proximity Sensor Selection Guide (continued)				
Specifications	PMW Stainless Steel DC	PKW Stainless Steel DC	PTW Stainless Steel DC	V Series AC
<b>Description</b>	Inductive proximity sensors, 12mm, DC, stainless steel	Inductive proximity sensors, 18mm, DC, stainless steel	Inductive proximity sensors, 30mm, DC, stainless steel	Inductive proximity sensors, 8, 12, 18, 30mm AC, metal
<b>Sensing Distances</b>	Standard distance: 2mm Extended distance: 3mm, 4mm Triple distance: 6mm	Standard distance: 5mm Extended distance: 8mm Triple distance: 10mm	PTW-A*-5: 20mm	M8 models Flush: 2mm Non-flush: 4mm M12 models Flush: 2mm Non-flush: 4mm M18 models Flush: 5mm Non-flush: 8mm M30 models Flush 10mm Non-flush: 15mm
<b>Output State</b>	N.O.; N.O./N.C.	N.O.; N.O./N.C	N.O.	N.O. or N.C. (VAC); N.O./N.C. (VDC)
<b>Logic Output</b>	NPN / PNP	NPN / PNP	PTW-A*-5: NPN / PNP	-
<b>Connection Type</b>	Axial Cable / M12 connector	Axial cable / M12 connector	PTW-A*-5: Axial Cable / M12 connector	Axial cable / M12 connector: 1/2"-20 UNF, Micro AC quick-disconnect
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	PTW-A*-5: 10 to 30 VDC;	20 to 253 VAC 20 to 250 VAC/VDC
<b>Switching Frequency</b>	Standard/extended distance: 2kHz Triple distance: 400Hz	Standard/extended distance: 1kHz Triple distance: 200Hz	PTW-A*-5: 100Hz;	25Hz
<b>Protection Degree</b>	Standard/extended distance: IEC-IP67/68 Triple distance: IEC-IP67 connector / IP68 (cable)	Standard/extended distance: IEC-IP67/68 Triple distance: IEC-IP67 connector / IP68 (cable)	PTW-A*-5: IEC-IP67 (connector/ IP68 cable)	IEC-IP67

# Proximity Sensor Selection Guide



Proximity Sensor Selection Guide (continued)				
Specifications	CM Capacitive DC	CK Capacitive DC	CT Capacitive DC, AC/DC	CR Capacitive DC
<b>Description</b>	12mm capacitive proximity sensors; DC, metal	18mm capacitive proximity sensors; DC, plastic	30mm capacitive proximity sensors; DC, AC/DC, plastic and metal	Rectangular capacitive proximity sensors; DC, plastic
<b>Sensing Distances</b>	Flush: 6mm Non-flush: 12mm	12mm	Flush: 15mm Non-flush: 20mm, 40mm	12mm
<b>Output State</b>	N.O.	N.O./N.C.	N.O., N.C., N.O./N.C.	N.O./N.C.
<b>Logic Output</b>	PNP	NPN/ PNP	NPN/ PNP, NPN, PNP	NPN/ PNP
<b>Connection Type</b>	M12 connector	M12 connector	Axial cable, M12 connector and 1/2 inch AC micro connector	Axial cable
<b>Supply Voltage</b>	10-36 VDC	10-36 VDC	10 to 30 VDC, 10 to 36 VDC, 20 to 250 VDC/30 to 250 VAC	10-36 VDC
<b>Switching Frequency</b>	50Hz	10Hz	100Hz, 10Hz	10Hz
<b>Protection Degree</b>	IEC-IP65	IEC-IP65, IEC-IP67	IEC-IP65, IEC-IP67	IEC-IP65, IEC-IP67



Proximity Sensor Selection Guide (continued)				
Specifications	AE Analog Prox	AM Analog Prox	AK Analog Prox	AT Analog Prox
<b>Description</b>	Analog inductive proximity sensors, 8mm, metal	Analog inductive proximity sensors, 12mm, metal	Analog inductive proximity sensors, 18mm, metal	Analog inductive proximity sensors, 30mm, metal
<b>Sensing Distance</b>	0-4 mm	0-6 mm	0-10 mm	0-20 mm
<b>Output</b>	0-10 VDC	0-5 VDC, 1-5mA / 0-10 VDC, 4 -20mA	0-5 VDC, 1-5mA / 0-10 VDC, 4-20mA	0-5 VDC, 1-5mA / 0-10 VDC, 4-20mA
<b>Supply Voltage</b>	15-30 VDC	10-30 VDC / 15-30 VDC	10-30 VDC / 15-30 VDC	10-30 VDC / 15-30 VDC
<b>Connection Type</b>	Axial cable / M8 connector	Axial cable / M12 connector	Axial cable / M12 connector	Axial cable / M12 connector
<b>Protection Degree</b>	IEC-IP67	IEC-IP67	IEC-IP67	IEC-IP67

# Proximity Sensor Selection Guide

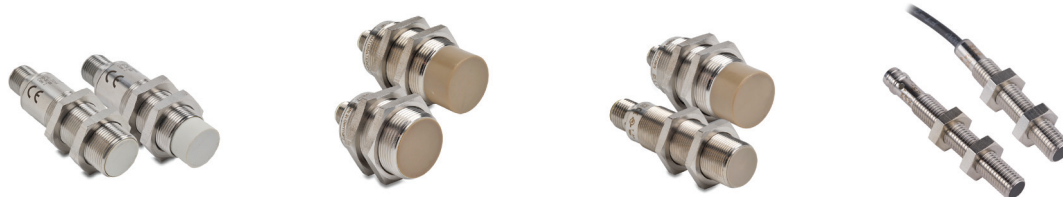


Proximity Sensor Selection Guide (continued)				
Specifications	UK1 Ultrasonic Sensor DC	UK6 Ultrasonic Sensor DC	UT1 Ultrasonic Sensor DC	UT2 Ultrasonic Sensor DC
<b>Description</b>	Ultrasonic Sensor, 18mm, plastic, DC and analog output models	Ultrasonic Sensor, 18mm, plastic, DC and analog output models, short body	Ultrasonic Sensor, 30mm, plastic, DC and analog output models	Ultrasonic Sensor, 30mm, plastic, DC and analog output models
<b>Sensing Distances</b>	50-2200 mm	40-900 mm	250-3500 mm	350-6000 mm
<b>Output</b>	DC models: PNP, NPN, N.O./N.C. Analog models: 0-10 VDC or 4-20mA	DC models: PNP, NPN, N.O./N.C. Analog models: 0-10 VDC or 4-20mA	DC models: PNP, NPN, N.O./N.C. Analog models: 0-10 VDC or 4-20mA	DC models: PNP, NPN, N.O./N.C. Analog models: 0-10 VDC or 4-20mA
<b>Supply Voltage</b>	15–30 VDC	15–30VDC	12–30 VDC, 15–30 VDC (0–10 VDC)	12–30 VDC, 15–30 VDC (0–10 VDC)
<b>Connection Type</b>	M12 connector or 2m pre-wired output cable	M12 (connector or 2m pre-wired output cable)	M12 connector or 2m pre-wired output cable	M12 connector or 2m pre-wired output cable
<b>Protection Degree</b>	IEC-IP67	IEC-IP67	IEC-IP67	IEC-IP67



Proximity Sensor Selection Guide (continued)				
Specifications	SU Ultrasonic Sensor DC	TU Ultrasonic Sensor DC	UHZ Ultrasonic Sensor DC	PFM Series DC
<b>Description</b>	Ultrasonic Sensor, 18mm, plastic, DC and analog output models	Ultrasonic Sensor, 30mm, plastic DC and analog output models	Ultrasonic Sensor, 30 x 20mm, plastic, through-beam models	Food and Beverage Inductive Proximity Sensors, 12mm stainless steel, DC
<b>Sensing Distances</b>	100 to 600mm 200 to 1500mm	300 to 2500mm	300mm	Standard Flush: 2mm Non-flush: 4mm Extended Flush: 4mm Non-flush: 7 - 8 mm
<b>Output State</b>	DC models: PNP N.O. Analog models: 0-10VDC	DC models: PNP N.O. Analog models: 0-10VDC	PNP/NPN, N.O./N.C.	N.O./N.C. selectable; N.O.
<b>Logic Output</b>	NA	NA	NA	NPN/PNP
<b>Connection Type</b>	Axial cable/M12 connector	M12 connector	2 meter Axial cable	M12 connector
<b>Supply Voltage</b>	DC models: 15-30VDC Analog models: 18-30VDC	19-30VDC	18-30VDC	N.O. only: 10 to 36 VDC; N.O./N.C. 10 to 30 VDC
<b>Switching Frequency</b>	NA	NA	NA	N.O. only - 800Hz N.O./N.C. - 2000Hz
<b>Protection Degree</b>	IEC-IP67	IEC-IP67	IEC-IP67	IEC IP68, IP69K

# Proximity Sensor Selection Guide



Proximity Sensor Selection Guide (continued)				
Specifications	<b>PFK Series DC</b>	<b>PFT Series DC</b>	<b>VF Series AC</b>	<b>MAE DC</b>
<b>Description</b>	Food and Beverage Inductive Proximity Sensors 18 mm stainless steel, DC	IP69K-rated Inductive Proximity Sensors 30mm stainless steel, DC	IP69K-rated Inductive Proximity Sensors 18mm/30mm stainless steel, AC	IP67 Magnetic Proximity Sensors 8mm stainless steel, DC
<b>Sensing Distances</b>	Standard Flush: 5mm Non-flush: 8mm Extended Flush: 8mm Non-flush: 12mm	Flush: 14 - 15 mm Non-flush: 22mm	18mm models: Flush: 5mm Non-flush: 12mm 30mm models: Flush: 14mm Non-flush: 22mm	60mm
<b>Output State</b>	N.O./N.C. selectable; N. O.	N.O.	N.O.	N.O.
<b>Logic Output</b>	NPN/PNP	PNP	NA	PNP
<b>Connection Type</b>	M12 connector	M12 connector	1/2" micro AC	M8 connector or 2m cable
<b>Supply Voltage</b>	N.O. only: 10 to 36 VDC; NO/NC: 10 to 30 VDC	10 to 36 VDC	20 to 140 AC/DC, 47 to 63 Hz AC	10 to 30 VDC
<b>Switching Frequency</b>	N.O. only - Flush: 600Hz Non-flush: 300Hz N.O./N.C. - 1500 Hz	N.O. only - Flush: 50Hz Non-flush: 100Hz	AC - 25Hz DC 18 mm - 300Hz DC 30 mm - 100Hz	5kHz
<b>Protection Degree</b>	IEC IP68, IP69K	IEC IP68, IP69K	IEC IP68, IP69K	IP67



Proximity Sensor Selection Guide (continued)			
Specifications	<b>MAF DC</b>	<b>MMW/ MKW DC</b>	<b>MDR DC</b>
<b>Description</b>	IP69K Magnetic Proximity Sensors 12mm or 18mm stainless steel, DC	IP65/IP67 Magnetic Proximity Sensors 12mm or 18mm Stainless Steel, DC	IP67 Magnetic Proximity Sensors Rectangular Plastic, DC
<b>Sensing Distances</b>	12mm housing - 60mm 18mm housing - 70mm	12mm housing - 60mm 18mm housing - 70mm	60mm
<b>Output State</b>	N.O.	N.O. or N.C.	N.O.
<b>Logic Output</b>	PNP	PNP or NPN	PNP
<b>Connection Type</b>	M12 connector	M12 connector or 2m cable	M8 connector or 2m cable
<b>Supply Voltage</b>	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
<b>Switching Frequency</b>	5kHz	5kHz	5kHz
<b>Protection Degree</b>	IEC IP68, IP69K	IP65, IP67	IP67