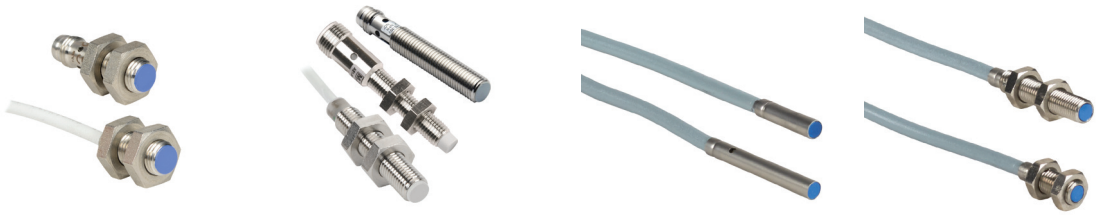
Proximity Sensor Selection Guide

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***
Description	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
Sensing Distances	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
Output State	N.O.	N.O.	N.O./N.C.	N.O.	N.O./N.C.
Logic Output	NPN / PNP	NPN / PNP	NPN / PNP	NPN / PNP	NPN / PNP
Connection Type	Axial cable	Axial cable	Axial cable / M8 connector	Axial cable / M8 connector	Axial cable / M8 connector
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Switching Frequency	Standard distance: 5kHz	Extended distance: 3kHz	Standard and extended distance: 7kHz	Standard distance: 5kHz Extended distance: 3kHz	Standard and extended distance: 7kHz
Protection Degree	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***
Description	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
Sensing Distances	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
Output State	N.O./N.C.	N.O.	N.O. or N.C.	N.O. or N.C.
Logic Output	NPN / PNP	NPN / PNP	NPN or PNP	NPN or PNP
Connection Type	Axial cable / M8 connector	Axial cable / M12 connector	2m cable	2m cable or M8 quick-disconnect
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Switching Frequency	Standard and extended distance: 7kHz	Flush: 3 kHz Non-flush: 2.5 kHz	3kHz	Extended distance: 8kHz or 3kHz Triple distance: 800Hz
Protection Degree	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***
Description	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
Sensing Distances	2.5 mm	Semi-flush: 3mm Non-flush: 6mm	Non-flush: 6mm	Semi-flush: 6mm Non-flush: 10mm
Output State	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Logic Output	NPN or PNP	NPN or PNP	NPN or PNP	NPN or PNP
Connection Type	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
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Switching Frequency	Flush: 800Hz	Semi-flush: 1kHz Non-flush: 500Hz	Non-flush: 700Hz	Semi-flush: 800Hz Non-flush: 400Hz
Protection Degree	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***
Description	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
Sensing Distances	Non-flush: 10mm	Semi-flush: 12mm Non-flush: 20mm	Non-flush: 20mm	Semi-flush: 22mm Non-flush: 40mm
Output State	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.	N.O. or N.C.
Logic Output	NPN or PNP	NPN or PNP	NPN or PNP	NPN or PNP
Connection Type	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect	2m cable or M12 quick-disconnect
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Switching Frequency	Non-flush: 400Hz	Semi-flush: 600Hz Non-flush: 500Hz	Non-flush: 200Hz	Semi-flush: 200Hz Non-flush: 100Hz
Protection Degree	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*
Description	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
Sensing Distances	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
Output State	N.O. or N.C.	N.O.	N.O.	N.O.	N.O.
Logic Output	NPN or PNP	NPN or PNP	PNP	PNP	NPN / PNP
Connection Type	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
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Switching Frequency	Non-flush: 90Hz	Non-flush: 180Hz	Flush/Non-flush: 2000 Hz	Flush/Non-flush: 2000 Hz	Flush: 2, 25, 50, 75, 100, 150, 2000Hz
Protection Degree	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*
Description	Inductive proximity sensors, 12mm, DC, metal	Inductive proximity sensors, 18mm, DC, metal	Inductive proximity sensors, 30mm, DC, metal
Sensing Distances	Flush: 4mm Non-flush: 7mm	Flush: 8mm Non-flush: 12mm	Flush: 15mm Non-flush: 22mm
Output State	N.0., N.C.	N.0., N.C.	N.0., N.C.
Logic Output	NPN / PNP	NPN / PNP	NPN / PNP
Connection Type	Axial cable / M12 connector	Axial cable / M12 connector	Axial cable / M12 connector
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 30 VDC
Switching Frequency	3-wire: 700Hz	Flush: 3-wire: 400Hz Non-flush: 3-wire: 300Hz	3-wire: 100Hz
Protection Degree	IP65 / IP66 / IP67 / IP68 / IP69K	IP65 / IP66 / IP67 / IP68 / IP69K	IP65 / IP66 / IP67 / IP68 / IP69K

Proximity Sensor Selection Guide

Proximity Sensor Selection Guide (continued)

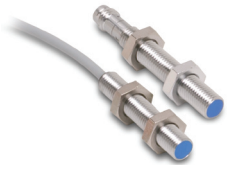
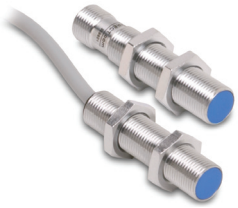
Specifications	*CR5 Rectangular DC*	*CR8 Rectangular DC*	*LF40 Rectangular DC*	*DR10 Rectangular DC*	*APS Rectangular DC*
Description	5 x 5 rectangular inductive proximity sensors, DC, metal	8 x 8 rectangular inductive proximity sensors, DC, metal	40 x 40 x 66 rectangular inductive proximity sensors, 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
Sensing Distances	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
Output State	N.O.	N.O.	N.O.; N.O. / N.C. Complementary	N.O.	N.O./N.C.
Logic Output	NPN / PNP	NPN / PNP	PNP	NPN/ PNP	NPN/ PNP, NPN, PNP
Connection Type	Axial cable / M8 connector	Axial cable / M8 connector	M12 connector	Axial cable / M8 connector	Axial cable
Supply Voltage	10 to 30 VDC	10 to 30 VDC	10 to 36 VDC	10 to 30 VDC	10–30 VDC
Switching Frequency	Standard distance: 5kHz Extended distance: 3kHz	1kHz	Flush: 100Hz Non-flush: 80Hz	3kHz	200Hz/500Hz
Protection Degree	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*
Description	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
Sensing Distances	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
Output State	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)
Logic Output	NPN / PNP	NPN / PNP	PTW-A*-5: NPN / PNP	-
Connection Type	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
Supply Voltage	10 to 30 VDC	10 to 30 VDC	PTW-A*-5: 10 to 30 VDC;	20 to 253 VAC 20 to 250 VAC/VDC
Switching Frequency	Standard/extended distance: 2kHz Triple distance: 400Hz	Standard/extended distance: 1kHz Triple distance: 200Hz	PTW-A*-5:100Hz;	25Hz
Protection Degree	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***
Description	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
Sensing Distances	Flush: 6mm Non-flush: 12mm	12mm	Flush: 15mm Non-flush: 20mm, 40mm	12mm
Output State	N.O.	N.O./N.C.	N.O., N.C., N.O./N.C.	N.O./N.C.
Logic Output	PNP	NPN/ PNP	NPN/ PNP, NPN, PNP	NPN/ PNP
Connection Type	M12 connector	M12 connector	Axial cable, M12 connector and 1/2 inch AC micro connector	Axial cable
Supply Voltage	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
Switching Frequency	50Hz	10Hz	100Hz, 10Hz	10Hz
Protection Degree	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***
Description	Analog inductive proximity sensors, 8mm, metal	Analog inductive proximity sensors, 12mm, metal	Analog inductive proximity sensors, 18mm, metal	Analog inductive proximity sensors, 30mm, metal
Sensing Distance	0-4 mm	0-6 mm	0-10 mm	0-20 mm
Output	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
Supply Voltage	15-30 VDC	10-30 VDC / 15-30 VDC	10-30 VDC / 15-30 VDC	10-30 VDC / 15-30 VDC
Connection Type	Axial cable / M8 connector	Axial cable / M12 connector	Axial cable / M12 connector	Axial cable / M12 connector
Protection Degree	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***
Description	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
Sensing Distances	50-2200 mm	40-900 mm	250-3500 mm	350-6000 mm
Output	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
Supply Voltage	15-–30 VDC	15-–30VDC	12–30 VDC, 15–30 VDC (0–10 VDC)	12–30 VDC, 15–30 VDC (0–10 VDC)
Connection Type	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
Protection Degree	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***
Description	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
Sensing Distances	100 to 600mm 200 to 1500mm	300 to 2500mm	300mm	Standard Flush: 2mm Non-flush: 4mm Extended Flush: 4mm Non-flush: 7 - 8 mm
Output State	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.
Logic Output	NA	NA	NA	NPN/PNP
Connection Type	Axial cable/M12 connector	M12 connector	2 meter Axial cable	M12 connector
Supply Voltage	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
Switching Frequency	NA	NA	NA	N.O. only - 800Hz N.O./N.C. - 2000Hz
Protection Degree	IEC-IP67	IEC-IP67	IEC-IP67	IEC IP68, IP69K

Proximity Sensor Selection Guide

Proximity Sensor Selection Guide (continued)				
Specifications	***PFK Series DC***	***PFT Series DC***	***VF Series AC***	***MAE DC***
Description	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
Sensing Distances	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
Output State	N.O./N.C. selectable; N. O.	N.O.	N.O.	N.O.
Logic Output	NPN/PNP	PNP	NA	PNP
Connection Type	M12 connector	M12 connector	1/2" micro AC	M8 connector or 2m cable
Supply Voltage	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
Switching Frequency	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
Protection Degree	IEC IP68, IP69K	IEC IP68, IP69K	IEC IP68, IP69K	IP67

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