

/// Sensors with reduction factor 1



Sensors with this feature provide a constant scanning range S_n , independent of the material – regardless of whether iron, stainless steel or copper. It can be used with objects made of different materials, or with very thin metal foils.

**Benefits:**

- Constant material-independent range S_n
- For various metals and thin foils

Part no.	Part description	Operating range S_a Typ. operating range limit S_n	Switching frequency	Type of installation	Switching output 1	Description	Connection	Material
50111436	IS 230FM/4NO.5F-40N-S12	0 ... 32.4 mm 40 mm	90 Hz	Non-embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50109734	IS 218FM/4NO.5F-20N-S12	0 ... 16.2 mm 20 mm	200 Hz	Non-embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50109738	IS 212FM/4NO.5F-10N-S12	0 ... 8.1 mm 10 mm	400 Hz	Non-embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50111435	IS 230FM/4NO.5F-20E-S12	0 ... 16.2 mm 20 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128161	IS 230FM/4NC.5-10E-S12	0 ... 8.1 mm 10 mm	50 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128162	IS 230FM/4NC.5-10E	0 ... 8.1 mm 10 mm	50 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50109732	IS 218FM/4NO.5F-10E-S12	0 ... 8.1 mm 10 mm	300 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128163	IS 230FM/4NO.5-10E-S12	0 ... 8.1 mm 10 mm	50 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128164	IS 230FM/4NO.5-10E	0 ... 8.1 mm 10 mm	50 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128165	IS 230FM/2NO.5-10E-S12	0 ... 8.1 mm 10 mm	50 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128166	IS 230FM/2NO.5-10E	0 ... 8.1 mm 10 mm	50 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50109736	IS 212FM/4NO.5F-6E0-S12	0 ... 4.8 mm 6 mm	600 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128167	IS 218FM/4NC.5-5E0-S12	0 ... 4 mm 5 mm	100 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128168	IS 218FM/4NC.5-5E0	0 ... 4 mm 5 mm	100 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128169	IS 218FM/4NO.5-5E0-S12	0 ... 4 mm 5 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128170	IS 218FM/4NO.5-5E0	0 ... 4 mm 5 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128171	IS 218FM/2NO.5-5E0-S12	0 ... 4 mm 5 mm	100 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128172	IS 218FM/2NO.5-5E0	0 ... 4 mm 5 mm	100 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128173	IS 212FM/4NC.5-3E0-S12	0 ... 2.4 mm 3 mm	100 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128174	IS 212FM/4NC.5-3E0	0 ... 2.4 mm 3 mm	100 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128175	IS 212FM/4NO.5-3E0-S12	0 ... 2.4 mm 3 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128176	IS 212FM/4NO.5-3E0	0 ... 2.4 mm 3 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128177	IS 212FM/2NO.5-3E0-S12	0 ... 2.4 mm 3 mm	100 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Connector, M12, 4-pin	Stainless steel
50128178	IS 212FM/2NO.5-3E0	0 ... 2.4 mm 3 mm	100 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128179	IS 208FM/4NC.5-2E0-S8.3	0 ... 1.6 mm 2 mm	100 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Connector, M8, 3-pin	Stainless steel
50128180	IS 208FM/4NC.5-2E0	0 ... 1.6 mm 2 mm	100 Hz	Embedded	Transistor, PNP, break-contact (NC)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128181	IS 208FM/4NO.5-2E0-S8.3	0 ... 1.6 mm 2 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Connector, M8, 3-pin	Stainless steel
50128182	IS 208FM/4NO.5-2E0	0 ... 1.6 mm 2 mm	100 Hz	Embedded	Transistor, PNP, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel
50128183	IS 208FM/2NO.5-2E0-S8.3	0 ... 1.6 mm 2 mm	100 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Connector, M8, 3-pin	Stainless steel
50128184	IS 208FM/2NO.5-2E0	0 ... 1.6 mm 2 mm	100 Hz	Embedded	Transistor, NPN, make-contact (NO)	Reduction factor 1, DC	Cable, 2,000 mm, 3-wire	Stainless steel

ACCESSORIES: SENSORS WITH REDUCTION FACTOR 1

Connection technology

Connection cables

Part no.	Part description	Connection 1	No. of pins	Cable length	Sheathing material
50130690	KD U-M12-4W-V1-050	Connector, M12, angled, female	4-pin	5,000 mm	PVC
50130648	KD U-M12-4A-V1-020	Connector, M12, axial, female	4-pin	2,000 mm	PVC
50130652	KD U-M12-4A-V1-050	Connector, M12, axial, female	4-pin	5,000 mm	PVC
50130842	KD U-M8-3A-P1-020	Connector, M8, axial, female	3-pin	2,000 mm	PUR
50104520	K-D M8A-3P-2m-PVC	Connector, M8, axial, female	3-pin	2,000 mm	PVC
50130832	KD U-M8-3A-V1-050	Connector, M8, axial, female	3-pin	5,000 mm	PVC

Further connection cables can be found on our website

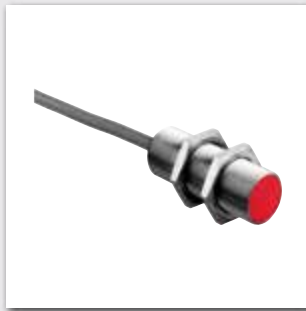
Mounting systems

Mounting brackets

Part no.	Part description	Design	Fastening at device	Fastening at system	Material
50113550	BT D08M.5	Angle, L-shape	Screw type	Through-hole mounting	Stainless steel
50113549	BT D12M.5	Angle, L-shape	Screw type	Through-hole mounting	Stainless steel

Further mounting brackets can be found on our website

/// AC/DC sensors



These 2-wire sensors can be used in a versatile manner within a universal environment due to their large AC/DC voltage range.



Benefits:

- Voltage range 10–230 V AC/DC
- Non-polarized switching contact NC or NO

Part no.	Part description	Operating range Sa Typ. operating range limit Sn	Switching frequency	Type of installation	Switching output 1	Description	Connection	Material
50128153	IS 230MM/1NC.3-15N	0 ... 12.1 mm 15 mm	500 Hz	Non-embedded	Relay, NC (normally closed)	AC/DC	Cable, 2,000 mm, 2-wire	Metal
50128154	IS 230MM/1NO.3-15N	0 ... 12.1 mm 15 mm	500 Hz	Non-embedded	Relay, NO (normally open)	AC/DC	Cable, 2,000 mm, 2-wire	Metal
50128151	IS 218MM/1NC.3-5E0	0 ... 4 mm 5 mm	1,500 Hz	Embedded	Relay, NC (normally closed)	AC/DC	Cable, 2,000 mm, 2-wire	Metal
50128152	IS 218MM/1NO.3-5E0	0 ... 4 mm 5 mm	1,500 Hz	Embedded	Relay, NO (normally open)	AC/DC	Cable, 2,000 mm, 2-wire	Metal
50128149	IS 212MM/1NC.3-2E0	0 ... 1.6 mm 2 mm	3,000 Hz	Embedded	Relay, NC (normally closed)	AC/DC	Cable, 2,000 mm, 2-wire	Metal
50128150	IS 212MM/1NO.3-2E0	0 ... 1.6 mm 2 mm	3,000 Hz	Embedded	Relay, NO (normally open)	AC/DC	Cable, 2,000 mm, 2-wire	Metal

ACCESSORIES: AC/DC SENSORS

Mounting systems

Mounting brackets

Part no.	Part description	Design	Fastening at device	Fastening at system	Material
50113549	BT D12M.5	Angle, L-shape	Screw type	Through-hole mounting	Stainless steel

Further mounting brackets can be found on our website