DATASENSING
easing automation challenges

NEW! IP67

DS4 Base

DETECTION AND MEASUREMENT AREA SENSOR



Basic version of detection and measurement area sensors designed for simple applications. Reliable performance and ease of use ensure detection and measurement in industrial applications.

- Detection height from 300 to 1500 mm
- 5, 10, 25 mm pitch
- Operating distance up to 13 m
- IO-Link configuration
- Digital and analogue output (0...10 V or 4...20 mA)
- Basic configuration by wire

CODE DESCRIPTION

DS4 - 05 - 300 - B 05 - JA

series	**DS4**	Area sensors detection and measurement
pitch	**05**	5 mm
	10	10 mm
	25	25 mm
controlled height	**0300**	300 mm
	0450	450 mm
	0600	600 mm
	0750	750 mm
	0900	900 mm
	1050	1050 mm
	1200	1200 mm
	1350	1350 mm
	1500	1500 mm
model	**B**	Model
receiver plug (M12)	**05**	5 poles
output	**JA**	Analogue V/A, IO-Link, Digital

TECHNICAL SPECIFICATIONS

	DS4-05-****-B05-JA
	
GENERAL DATA	
Operating principle	Emitter + Receiver
Detection capability	10 mm
MONITORED AREA	
Nominal sensing distance	0.2 ... 5 m
Controlled height	300 ... 1500 mm
EMISSION DATA	
Emission	Infrared (850 nm)
INPUT/OUTPUT	
Output type	PNP or NPN or Push-Pull , 0...10V, 4..20 mA IO-Link
IO-LINK	
IO-Link version	IO-Link V1.1.3
Transmission rate	230400 bits/s COM 3
Minimum cycle time	2 ms
DeviceID DEC	2
Process Data input length	32 Bytes
Process data output l	8 Bits
HMI/UI	
LED Indicators (TX)	Green (Power ON), Yellow (Emission range) Red (Test, failure), Blue (Emission range)
LED Indicators (RX)	Green (Power ON), Yellow (Status output, Connection Active) Red (Hardware Errors, module occupated)
ELECTRICAL DATA	
Supply voltage	19.2 ... 28.8 Vdc
Maximum No-load absorption	360 mA(emitter and receiver)
Power consumption - Emitter	≤ 2 W
Power consumption - Receiver	≤ 5 W
Maximum DC output voltage drop	2.5 V @ IL=100 mA
Maximum DC load current	100 mA
MECHANICAL DATA	
Dimensions	35 x 40 x (307.5 ... 1507.5) mm
Material	Aluminium / PBT
Housing material	Aluminium
Active part material	PMMA
Optic window material	PMMA
Connections	M12 5 poles + 200 mm length cable TPU (TX), M12 5 poles + 200 mm length cable TPU (RX) (DS4-**-****B05-JA)
Weight	1.40 Kg/m (single bar, without package)
ENVIRONMENTAL DATA	
Operating Temperature	-30 ... 55 °C (without freeze)
Storage temperature max.	-30 ... 70 °C
Mechanical protection	IP65 IP67
Shocks and vibrations	10 mm / 3g, 5 ... 150 Hz frequency, (EN 60068-2-6 / Class 3M7 IEC TR 60721-4-3); 25g x 6 ms x 600 (EN 60068-2-27 / Class 3M7 IEC TR 60721-4-3)
Humidity	15 ... 95 % (without freeze)

AVAILABLE MODELS

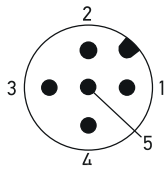
Distance between beams	Nominal sensing distance	Output type	Sensitivity adjustment	Response time	Controlled height	Beams number	PNP or NPN or Push-Pull , 0...10V, 4..20mA IO-Link
5 mm	0.2 ... 5 m	PNP or NPN or Push-Pull , 0...10V, 4..20mA IO-Link	High/Low emission (input emitter)	2.80 ms	300 mm	60	**DS4-05-0300-B05-JA** (957650001)
				3.70 ms	450 mm	90	**DS4-05-0450-B05-JA** (957650002)
				4.60 ms	600 mm	120	**DS4-05-0600-B05-JA** (957650003)
				5.50 ms	750 mm	150	**DS4-05-0750-B05-JA** (957650004)
				6.40 ms	900 mm	180	**DS4-05-0900-B05-JA** (957650005)
				7.30 ms	1050 mm	210	**DS4-05-1050-B05-JA** (957650006)
				8.20 ms	1200 mm	240	**DS4-05-1200-B05-JA** (957650007)
				9.10 ms	1350 mm	270	**DS4-05-1350-B05-JA** (957650008)
				10.00 ms	1500 mm	300	**DS4-05-1500-B05-JA** (957650009)
10 mm	0.2 ... 7 m			1.90 ms	300 mm	30	**DS4-10-0300-B05-JA** (957650048)
				2.35 ms	450 mm	45	**DS4-10-0450-B05-JA** (957650049)
				2.80 ms	600 mm	60	**DS4-10-0600-B05-JA** (957650050)
				3.25 ms	750 mm	75	**DS4-10-0750-B05-JA** (957650051)
				3.70 ms	900 mm	90	**DS4-10-0900-B05-JA** (957650052)
				4.15 ms	1050 mm	105	**DS4-10-1050-B05-JA** (957650053)
				4.60 ms	1200 mm	120	**DS4-10-1200-B05-JA** (957650054)
				5.05 ms	1350 mm	135	**DS4-10-1350-B05-JA** (957650055)
				5.50 ms	1500 mm	150	**DS4-10-1500-B05-JA** (957650056)
25 mm	0.2 ... 13 m			1.36 ms	300 mm	12	**DS4-25-0300-B05-JA** (957650095)
				1.54 ms	450 mm	18	**DS4-25-0450-B05-JA** (957650096)
				1.72 ms	600 mm	24	**DS4-25-0600-B05-JA** (957650097)
				1.90 ms	750 mm	30	**DS4-25-0750-B05-JA** (957650098)
				2.08 ms	900 mm	36	**DS4-25-0900-B05-JA** (957650099)
				2.26 ms	1050 mm	42	**DS4-25-1050-B05-JA** (957650100)
				2.44 ms	1200 mm	48	**DS4-25-1200-B05-JA** (957650101)
				2.62 ms	1350 mm	54	**DS4-25-1350-B05-JA** (957650102)
				2.80 ms	1500 mm	60	**DS4-25-1500-B05-JA** (957650103)

MINIMUM DETECTABLE OBJECT

	Minimum detectable object	Distance Lo	Distance Hi
DS4-05-****-B05-JA	10 mm	2.5 m	5 m
DS4-10-****-B05-JA	14 mm	4 m	7 m
DS4-25-****-B05-JA	30 mm	7 m	13 m

CONNECTIONS

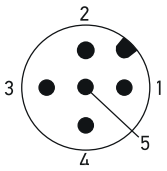
DS4--****B05-JA (Emitter (TX))**



MALE
M12
5 pins

1	Brown	+24 Vdc
2	White	RANGE SELECT
3	Blue	0 Vdc
4	Black	NC
5	Grey	NC

DS4--****B05-JA (Receiver (RX))**

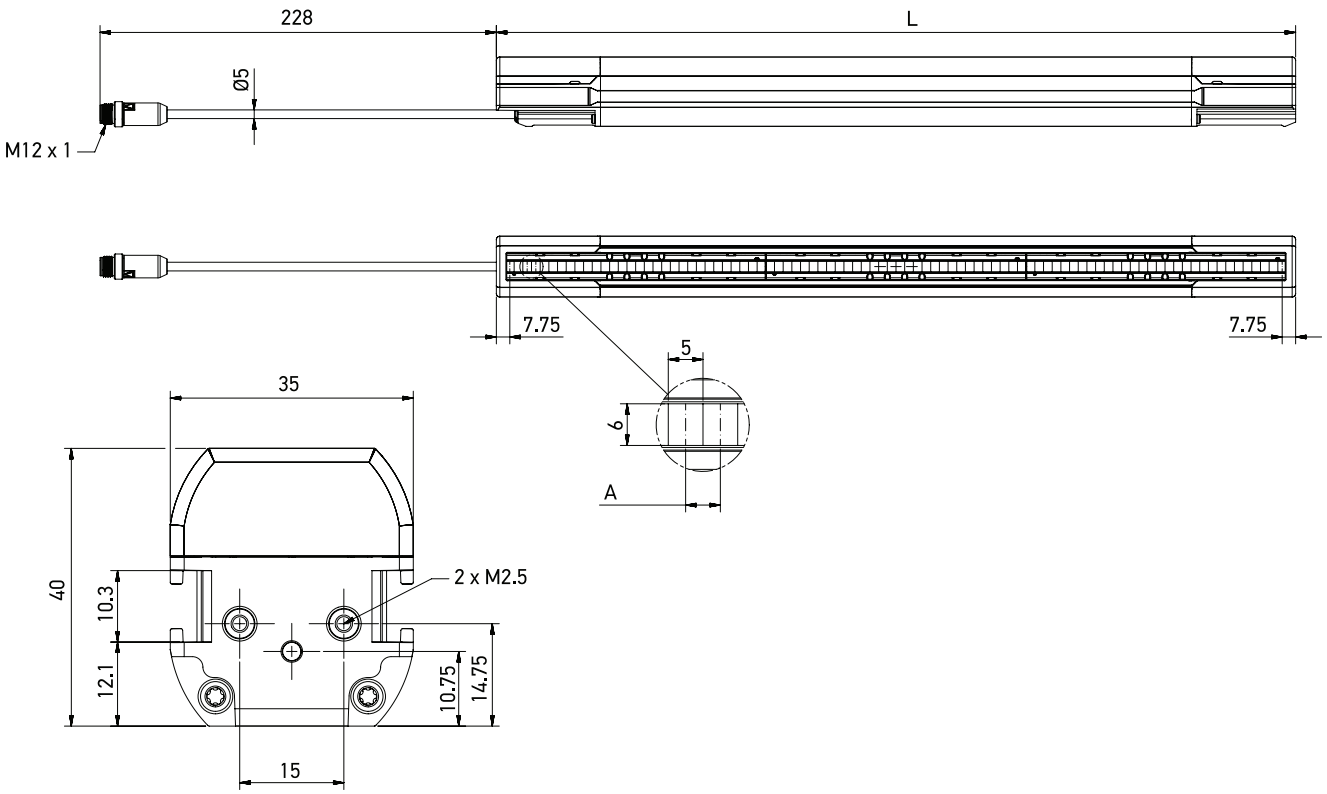


MALE
M12
5 pins

1	Brown	+24 Vdc
2	White	Analogue Output (A/V)
3	Blue	0 Vdc
4	Black	Digital / IO-Link
5	Grey	NO/NC, V/A Selection

MECHANICAL DRAWINGS

DS4-05-**-B05-JA**

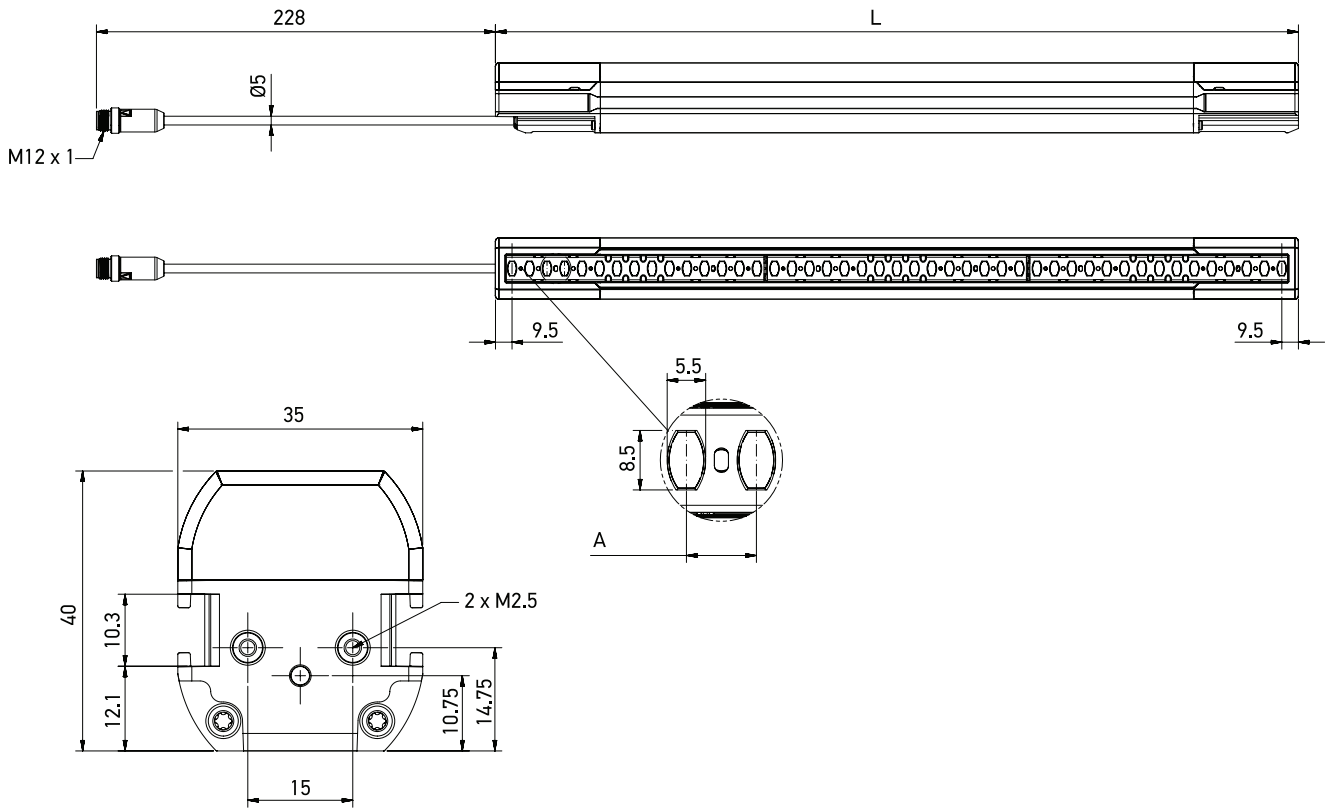


(mm)

Models	A	L (mm)
DS4-05-0300-B05-JA	Pitch 5	310.5
DS4-05-0450-B05-JA		460.5
DS4-05-0600-B05-JA		610.5
DS4-05-0750-B05-JA		760.5
DS4-05-0900-B05-JA		910.5
DS4-05-1050-B05-JA		1060.5
DS4-05-1200-B05-JA		1210.5
DS4-05-1350-B05-JA		1360.5
DS4-05-1500-B05-JA		1510.5

MECHANICAL DRAWINGS

DS4-10-**-B05-JA**

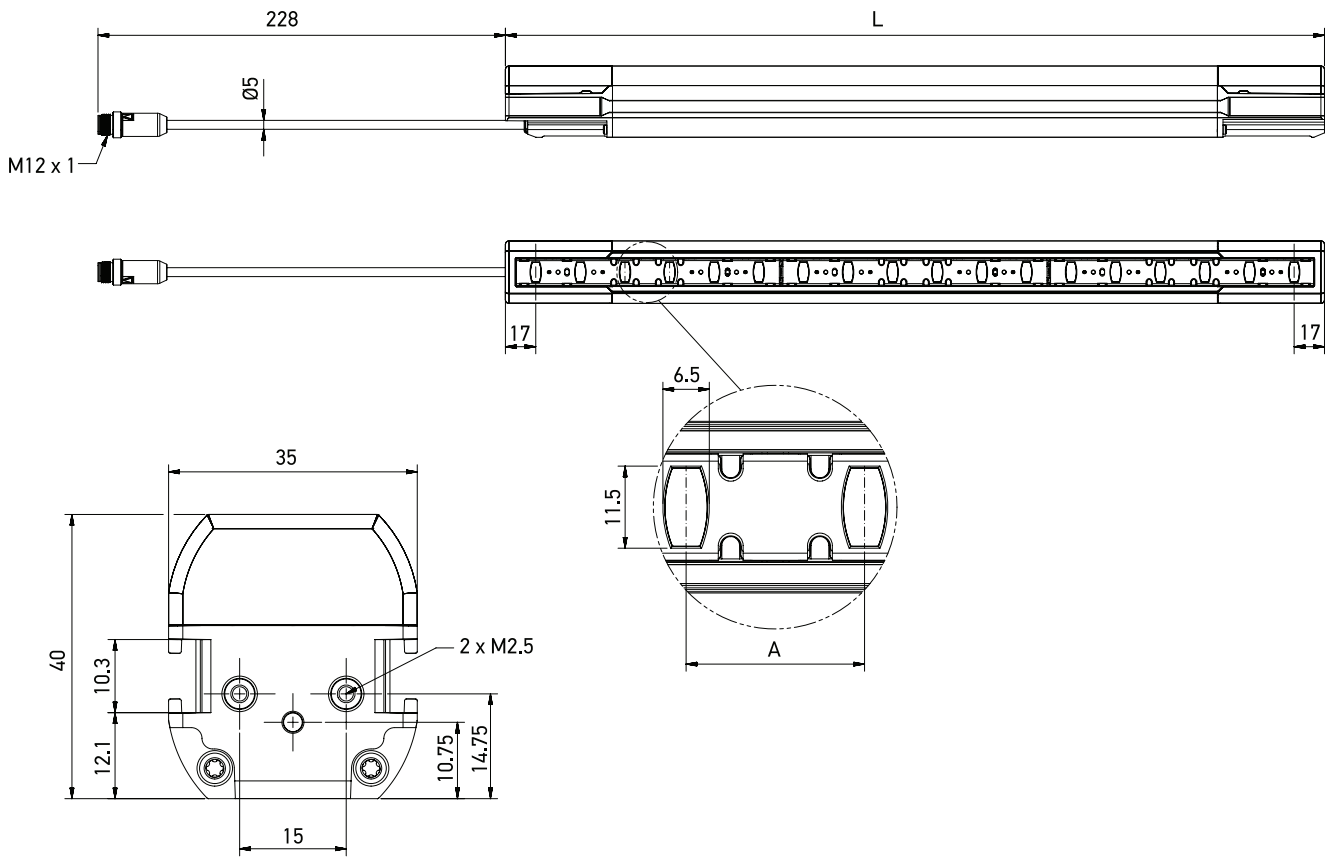


(mm)

Models	A	L (mm)
DS4-10-0300-B05-JA	Pitch 10	309
DS4-10-0450-B05-JA		459
DS4-10-0600-B05-JA		609
DS4-10-0750-B05-JA		759
DS4-10-0900-B05-JA		909
DS4-10-1050-B05-JA		1059
DS4-10-1200-B05-JA		1209
DS4-10-1350-B05-JA		1359
DS4-10-1500-B05-JA		1509

MECHANICAL DRAWINGS

DS4-25-**-B05-JA**



(mm)

Models	A	L (mm)
DS4-25-0300-B05-JA	Pitch 25	309
DS4-25-0450-B05-JA		459
DS4-25-0600-B05-JA		609
DS4-25-0750-B05-JA		759
DS4-25-0900-B05-JA		909
DS4-25-1050-B05-JA		1059
DS4-25-1200-B05-JA		1209
DS4-25-1350-B05-JA		1359
DS4-25-1500-B05-JA		1509

ACCESSORIES TO BE ORDERED SEPARATELY

	Model	Description	Article code
Cables	CS-A1-03-U-03	Cable M12 5 poles axial female unshielded 3 m UL 2464	95ASE1170
	CS-A1-03-U-05	Cable M12 5 poles axial female unshielded 5 m UL 2464	95ASE1180
	CS-H2-03-B-01	Cascade cable for SH4 1 m	95ASE0031
	CS-H2-03-B-03	Cascade cable for SH4 3 m	95ASE0032
	CS-H2-03-B-10	Cascade cable for SH4 10 m	95ASE0033
	CD12M/0H-050A3	Connect.M12-F,5 poles-5m,PVC,Axial	CD12M/0H-050A3
	CD12M/0H-100A3	Connect.M12-F,5 poles-10m,PVC,Axial	CD12M/0H-100A3
	CDP12/0B-010AA	M12-F-Axial, 4p,M12-M-Axial,PVC,1 m	CDP12/0B-010AA
	CDP12/0B-030AA	M12-F-Axial, 4p,M12-M-Axial,PVC,3 m	CDP12/0B-030AA
	CDP12/0B-050AA	M12-F-Axial, 4p,M12-M-Axial,PVC,5 m	CDP12/0B-050AA
	CDP12/0B-100AA	M12-F-Axial, 4p,M12-M-Axial,PVC,10 m	CDP12/0B-100AA
	CV12/0B-00A	Connect.M12-M-Axial,4 p,Field attach.	CV12/0B-00A
	CV12/0B-00B	Connect.M12-M-90°,4 p,Field attach.	CV12/0B-00B
	CV12/0H-00A	Connect.M12-M-Axial,5 p,Field attach.	CV12/0H-00A
	CS-A1-03-U-10	Cable M12 5 poles axial female unshielded 10 m UL 2464	95ASE1190
	CS-A1-03-U-15	Cable M12 5 poles axial female unshielded 15 m UL 2464	95ASE1200
	CS-I1-02-B-03	CS-I1-02-B-03 4p M12-M/M12-F axial 3m bk	95ACC0009
	CS-M1-02-B-03	CS-M1-02-B-03 5p M12-F Lcode axial 3m gr	95ACC0007
	CS-A1-02-G-05	CS-A1-02-G-05 = M12 4-p axial 5m	95A251270
	CS-A1-02-G-03	CS-A1-02-G-03 = M12 4-p axial 3m	95A251380
	CS-A1-02-G-10	CS-A1-02-G-10 = M12 4-p axial 10m	95A251390
	CS-A1-02-R-02	CS-A1-02-R-02 = M12 4-p axial 2m PUR	95A251540
	CS-A1-02-R-05	CS-A1-02-R-05 = M12 4-p axial 5m PUR	95A251560
	CS-A1-02-U-03	Cable M12 4 poles axial female unshielded 3 m UL 2464	95ASE1120
	CS-A1-02-U-05	Cable M12 4 poles axial female unshielded 5 m UL 2464	95ASE1130
	CS-A1-02-U-10	Cable M12 4 poles axial female unshielded 10 m UL 2464	95ASE1140
	CS-A1-02-U-15	Cable M12 4 poles axial female unshielded 15 m UL 2464	95ASE1150
	CS-A1-02-B-NC	CS-A1-02-B-NC = M12 4-p axial PG	G5085002
Mounting brackets	ST-KSTD	Metal angled brackets 4 pcs kit for SG/SH4	95ACC1670
	ST-K4OR	Orientable supports 4 pcs kit to be used with ST-KSTD	95ACC1680
	ST-K4AV	Anti vibration supports 4 pcs kit to be used with ST-KSTD	95ACC1700
	ST-K6AV	Anti vibration supports 6 pcs kit to be used with ST-KSTD	95ACC1710
	ST-KP4MP	Plastic angled brackets 4 pcs kit	95ASE1100
	ST-K4ROT-SH	Rotating brackets for SH4 4 pcs	95ASE0042
IO-Link masters	CBX-8IOL-PNIO	8P IOL M12 PROFINET MASTER	95ACC8190
	CBX-8IOL-EIP	8P IOL M12 EIP MASTER	95ACC8180

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Revision number: 3 - Revision date: 2025-06-04