

Ratings and Specifications

Sensing method		Retro-reflective with MSR function			
Model	NPN output	E3S-DBN_1	E3S-DBN_1T	E3S-DBN_2	E3S-DBN_2T
Item	PNP output	E3S-DBP_1	E3S-DBP_1T	E3S-DBP_2	E3S-DBP_2T
Sensing distance, typ. ¹		0 to 4.5 m (with E39-R8)		0 to 700 mm (with E39-R21)	
Sensing distance, recommended ²		0 to 3.5 m (with E39-R8)		0 to 500 mm (with E39-R21)	
Light source (wavelength)		Red LED (624 nm)			
Power supply voltage		10 to 30 VDC, including 10% ripple (p-p)			
Current consumption		720 mW max. (24 VDC, 30 mA)			
Control output		Load power supply voltage: 30 VDC max., Load current: 100 mA max. (Residual voltage: 2 V max.) NPN/PNP transistor output (depending on model)			
Operating modes		OUT1: L-ON/OUT2: D-ON (antivalent output)			
Protection circuits		Reversed power supply polarity protection, Output short-circuit protection, Reversed output polarity protection, Missconnection protection, Mutual interference suppression			
Response time		0.5 ms			
Sensitivity adjustment		SmartTeach	11-turn trimmer	SmartTeach	11-turn trimmer
Auto-Compensation function (AC3)		yes (default = OFF)	–	yes (default = OFF)	–
Lock function		yes	–	yes	–
Ambient illumination		Incandescent lamp: 3,000 lx max./Sunlight: 10,000 lx max.			
Ambient temperature range		Operating: –25 to 60°C/Storage: –40 to 70°C (with no icing or condensation)			
Ambient humidity range		Operating: 35 to 85% RH/Storage: 35 to 95% RH (with no condensation)			
Insulation resistance		20 MΩ min. at 500 VDC			
Dielectric strength		1,000 VAC at 50/60Hz for 1 min. Between current-carrying parts and case			
Vibration resistance		Destruction: 10 to 55 Hz, 1.5 mm double amplitude for 2 hours each in X,Y,Z directions			
Shock resistance		Destruction: 500 m/s ² , 3 times each in X,Y,Z directions			
Degree of protection		IEC: IP67, DIN 40050-9: IP69K			
Connection method		Pre-wired cable (standard length: 2 m) or M12 4-pin connector or Pigtail (0.3 m/M12 4-pin)			
Indicators		Light indicator (orange), Stability indicator (green)			
Weight (packed state)		Approx. 40 g			
Materials	Housing	PBT/ABS			
	Lens & indicators	PMMA (Polymethylmethacrylate)			
	Buttons	Elastomer			
	Cable	PVC			
Accessories		Instruction manual			

¹ Maximum sensing distance for typical reflector and sensor

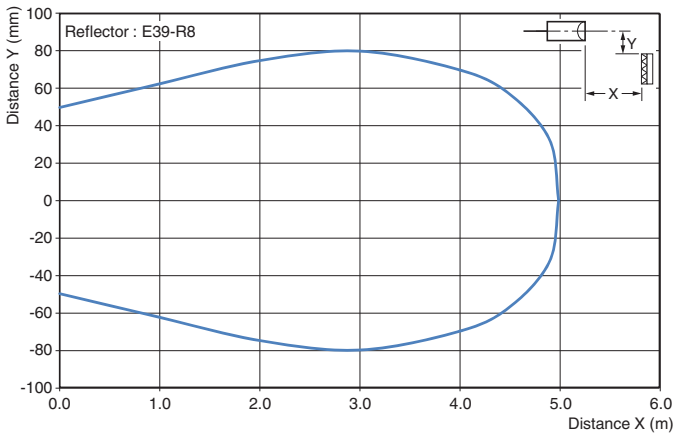
² Operating sensing distance recommended for factory environments

E3S-DB

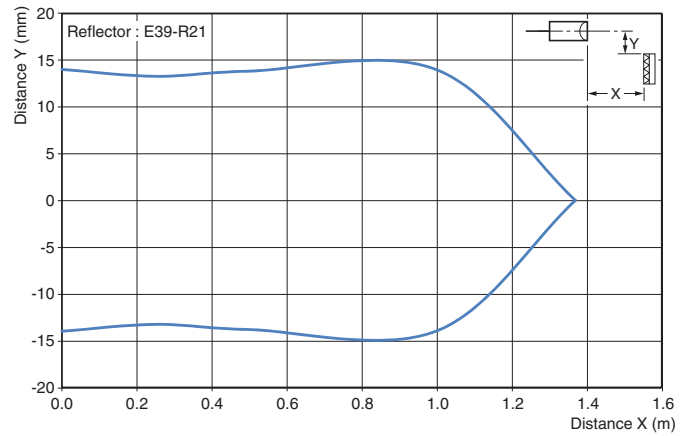
Engineering Data (Reference Value)

Parallel Operating Range

E3S-DB□□1(T)

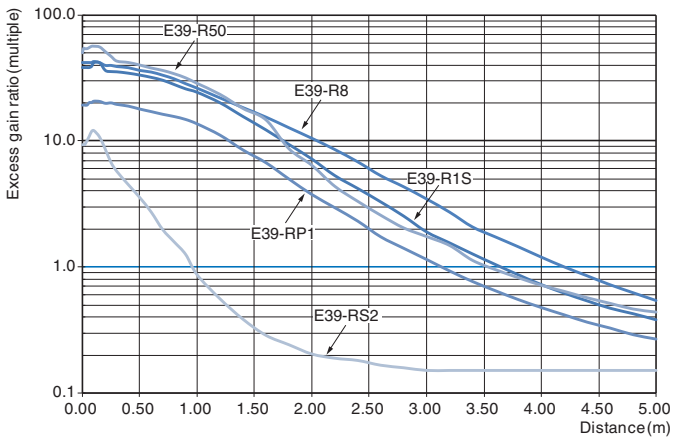


E3S-DB□□2(T)

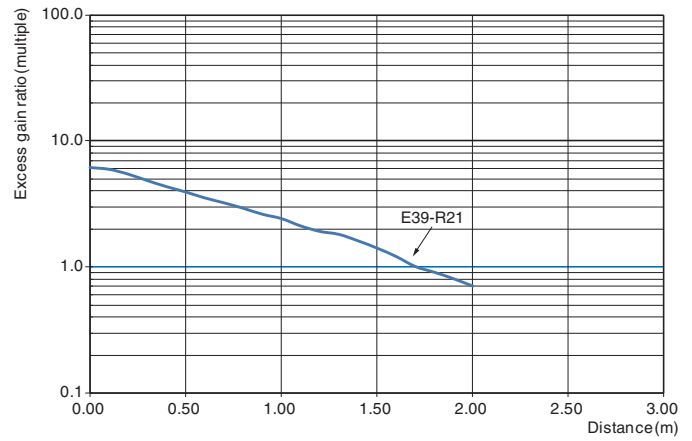


Excess Gain vs. Distance

E3S-DB□□1(T)

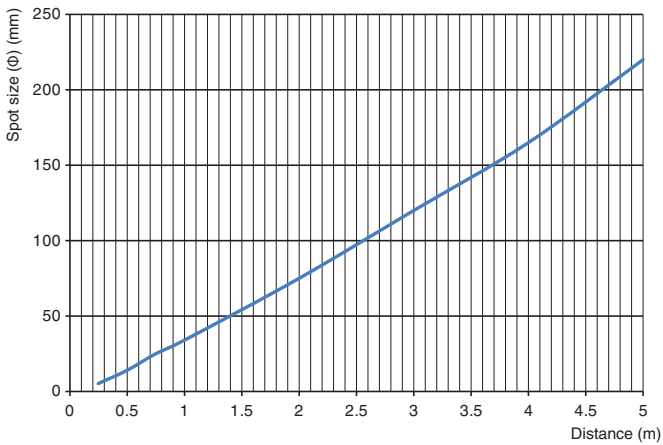


E3S-DB□□2(T)



Spot size vs. Distance

E3S-DB□□1(T)



E3S-DB□□2(T)

