

Линейные лазерные датчики ESX

Технические характеристики

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Basic Features	Working principle		Laser 3D measurement displacement sensor					
	Housing		Retangular					
	Optical working principle		Reflection					
	Mounting distance (CD)		19mm	22mm	54mm	80mm	100mm	
	Measuring range	Z-axis depth of field (MR)		7mm	11mm	25mm	70mm	200mm
		X-axis width	Near-end FOV	11mm	16mm	28mm	54mm	110mm
			Reference distance	12mm	17mm	31mm	68mm	170mm
			Distal FOV	13mm	18mm	35mm	80mm	230mm
	Contour points		2048					
	Light source	Wavelength		405nm				
Laser class		2M/3R						
Laser output power		10mW						
Reflection angle		50°	45°	30°	30°	27°		
Electrical data	X-direction resolution		5.6~6.3μm	7.8~8.9μm	13.4~16.4μm	27.1~40.0μm	54.0~114.2μm	
	Z-axis repeatability		0.1μm	0.2μm	0.3μm	0.8μm	1.2μm	
	Z-direction linearity (+/-% of MR)		0.02%					
	Scanning speed		340 ~ 10000Hz					
	Operating voltage		24V DC±10%					
	Power consumption		11W					
	Communication interface		Gigabit network interface, 1 24V TTL input, 1 output, 2 RS485 bidirectional Ios					
Environmental conditions	Operating temperature		0~50℃					
	Ambient illumination		Incandescent≤10000lux					
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions					
	Shock resistance		Peak acceleration of 15g, duration of 11ms half-sine wave shock					
	Enclosure rating		IP67					
Mechanical data	Dimension		150x90x54mm	150x100x54mm	160x105x54mm		185x100x54mm	
	Housing material		Aluminum					
	Weight		0.94kg	0.84kg	1.12kg	0.8kg		
	Model		ESX-C10	ESX-C20	ESX-C30	ESX-C100	ESX-C200	

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Basic Features	Working principle	Laser 3D measurement displacement sensor			
	Housing	Retangular			
	Optical working principle	Reflection			
	Mounting distance (CD)	100mm	330mm	250mm	760mm
	Measuring range	Z-axis depth of field (MR)	200mm	350mm	490mm
		X-axis width	Near-end FOV	110mm	195mm
			Reference distance	170mm	262mm
			Distal FOV	230mm	330mm
	Contour points	2048			
	Light source	Wavelength	650nm		
		Laser class	2M/3R		
		Laser output power	10mW		
	Reflection angle	27°	23.2°	25°	27°
Electrical data	X-direction resolution	54.0~114.2μm	92.8~164.9μm	115.5~265.1μm	338.8~731.8μm
	Z-axis repeatability	1.2μm	2μm	6μm	15μm
	Z-direction linearity (+/-% of MR)	0.02%			
	Scanning speed	340 ~ 10000Hz			
	Operating voltage	24V DC±10%			
	Power consumption	11W			
	Communication interface	Gigabit network interface, 1 24V TTL input, 1 output, 2 RS485 bidirectional Ios			
	Operating temperature	0~50℃			
	Ambient illumination	Incandescent≤10000lux			
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions			
Environmental conditions	Shock resistance	Peak acceleration of 15g, duration of 11ms half-sine wave shock			
	Enclosure rating	IP67			
Mechanical data	Dimension	185x100x54mm	285x100x52.5mm	285x100x52.5mm	690x134.5x58.4mm
	Housing material	Aluminum			
	Weight	0.8kg	1.62kg	1.44kg	4.44kg
	Model	ESX-CE200	ESX-CE300	ESX-CE500	ESX-CE1000



Basic Features	Working principle		Laser 3D measurement displacement sensor				
	Housing		Retangular				
	Optical working principle		Reflection				
	Mounting distance (CD)		18mm	40mm	90mm	140mm	
	Measuring range	Z-axis depth of field (MR)		7mm	24mm	74mm	192mm
		X-axis width	Near-end FOV	14mm	30mm	55mm	100mm
			Reference distance	15mm	33mm	72mm	145mm
			Distal FOV	16mm	36mm	88mm	190mm
	Contour points		4096				
	Light source	Wavelength		405nm			650nm
		Laser class		2M/3R			
		Laser output power		10mW			
Reflection angle		41°	38°	30°	24°		
Electrical data	X-direction resolution		6.9~8.4μm	14.6~20.1μm	28.8~47.1μm	51.7~99.6μm	
	Z-axis repeatability		0.2μm	0.4μm	0.6μm	1μm	
	Z-direction linearity (+/-% of MR)		0.02%				
	Scanning speed		1000 (full frame) ~20000Hz				
	Operating voltage		24V DC±10%				
	Power consumption		11W				
	Communication interface		Gigabit network interface, 1 24V TTL input, 1 output, 2 RS485 bidirectional Ios				
Environmental conditions	Operating temperature		0~50℃				
	Ambient illumination		Incandescent≤10000lux				
	Vibration resistance		10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions				
	Shock resistance		Peak acceleration of 15g, duration of 11ms half-sine wave shock				
	Enclosure rating		IP67				
Mechanical data	Dimension		145x95x60mm	160x104.5x60mm	170x105x60mm	190x115x64mm	
	Housing material		Aluminum				
	Weight		1.04kg	1.24kg	1.22kg	1.56kg	
	Model		ESX-G10	ESX-G20	ESX-G100	ESX-GE200	

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Basic Features	Working principle			Laser 3D measurement displacement sensor		
	Housing			Retangular		
	Optical working principle			Reflection		
	Mounting distance (CD)			18mm	40mm	90mm
	Measuring range	Z-axis depth of field (MR)		7mm	24mm	74mm
		X-axis width	Near-end FOV	13mm	28mm	55mm
			Reference distance	14.5mm	27mm	72mm
			Distal FOV	16mm	36mm	90mm
	Contour points			1920		
	Light source	Wavelength		405nm		
		Laser class		2M/3R		
		Laser output power		10mW		
		Reflection Angle			41°	38°
Electrical data	X-direction resolution			7.0~8.6μm	14.6~20.1μm	28.8~47.1μm
	Z-axis repeatability			0.2μm	0.4μm	0.6μm
	Z-direction linearity (+/-% of MR)			0.02%		
	Scanning speed			2500~56000Hz		
	Operating voltage			24V DC±10%		
	Power consumption			11W		
	Communication Interface			Gigabit network interface, 1 24V TTL input, 1 output, 2 RS485 bidirectional Ios		
Environmental conditions	Operating temperature			0~50℃		
	Ambient illumination			Incandescent≤10000lux		
	Vibration resistance			10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions		
	Shock resistance			Peak acceleration of 15g, duration of 11ms half-sine wave shock		
	Enclosure rating			IP67		
Mechanical data	Dimension			145x95x60mm	160x104.5x60mm	190x115x64mm
	Housing material			Aluminum		
	Weight			0.8kg	1.24kg	1.22kg
	Model			ESX-P10	ESX-P20	ESX-P100



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Basic Features	Working principle	Laser 3D measurement displacement sensor		
	Housing	Retangular		
	Optical working principle	Reflection		
	Mounting distance (CD)	140mm	140mm	235mm
	Measuring range	Z-axis depth of field (MR)	191mm	250mm
		X-axis width	Near-end FOV	192mm
			Reference distance	247mm
			Distal FOV	302mm
	Contour Points	1920		
	Light source	Wavelength	405nm	650nm
		Laser class	2M/3R	
		Laser output power	10mW	
	Reflection angle	24°		23.2°
Electrical data	X-direction resolution	51.7~99.7μm	51.7~99.7μm	100.7~160.3μm
	Z-axis repeatability	1μm	1μm	1.5μm
	Z-direction linearity (+/-% of MR)	0.02%		0.04%
	Scanning speed	2500~56000Hz		
	Operating voltage	24V DC±10%		
	Power consumption	11W		
	Communication interface	Gigabit network interface, 1 24V TTL input, 1 output, 2 RS485 bidirectional I/Os		
Environmental conditions	Operating temperature	0~50℃		
	Ambient illumination	Incandescent≤10000lux		
	Vibration resistance	10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions		
	Shock resistance	Peak acceleration of 15g, duration of 11ms half-sine wave shock		
	Enclosure rating	IP67		
Mechanical data	Dimension	190x115x64mm		340x115x64.8mm
	Housing material	Aluminum		
	Weight	1.54kg		2.08kg
	Model	ESX-P200	ESX-PE200	ESX-PE300

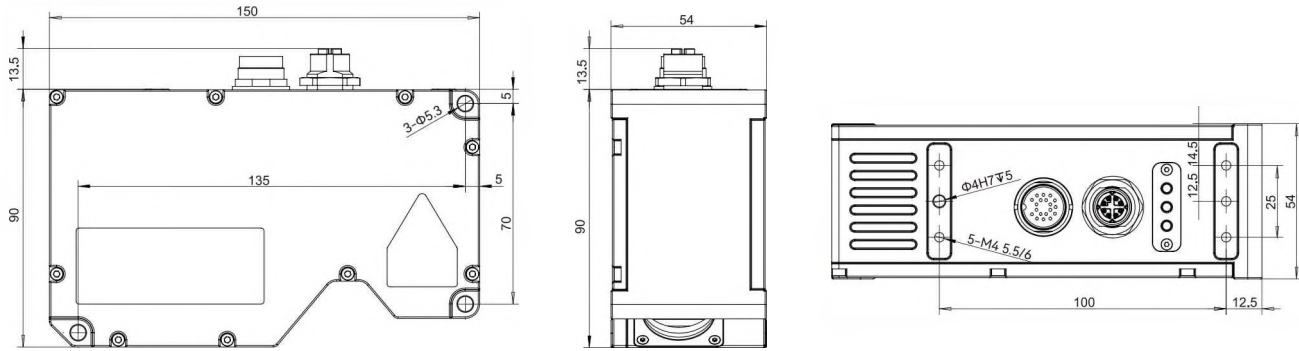
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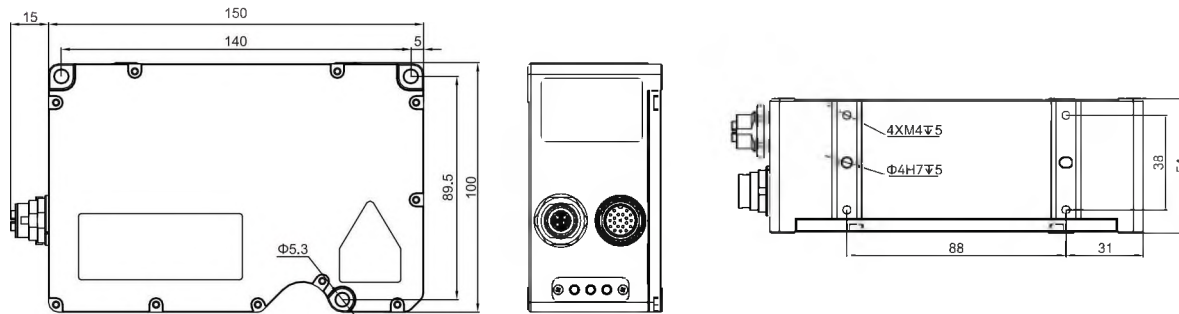


Basic Features	Working principle			Laser 3D measurement displacement sensor	
	Housing			Retangular	
	Optical working principle			Reflection	
	Mounting distance (CD)			30mm	50mm
	Measuring range	Z-axis depth of field (MR)		6mm	18mm
		X-axis width	Near-end FOV	20mm	45mm
			Reference distance	22mm	51mm
			Distal FOV	24mm	56mm
	Contour Points			4096	
	Light source	Wavelength		405nm	
		Laser class		2M/3R	
		Laser output power		10mW	
		Reflection angle			50°
Electrical data	X-direction resolution			5.1~5.9μm	11.1~13.6μm
	Z-axis repeatability			0.1μm	0.3μm
	Z-direction linearity (+/-% of MR)			0.02%	
	Scanning speed			1200~16000Hz	
	Operating voltage			24V DC±10%	
	Power consumption			11W	
	Communication Interface			Gigabit network interface, 1 24V TTL input, 1 output, 2 RS485 bidirectional Ios	
Environmental conditions	Operating temperature			0~50°C	
	Ambient Illumination			Incandescent≤10000lux	
	Vibration resistance			10 to 55 Hz, 1.5 mm double amplitude, 2 hours for each X, Y, and Z directions	
	Shock resistance			Peak acceleration of 15g, duration of 11ms half-sine wave shock	
	Enclosure rating			IP67	
Mechanical data	Dimension			190x115x80mm	
	Housing material			Aluminum	
	Weight			1.31kg	1.35kg
	Model			ESX-H10	ESX-H20

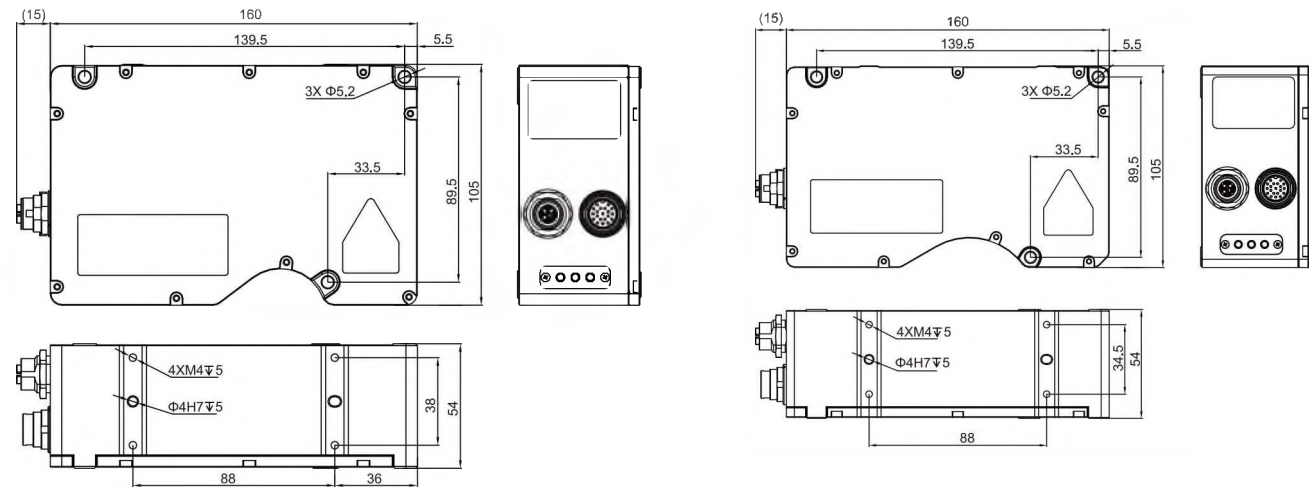
ESX-C10



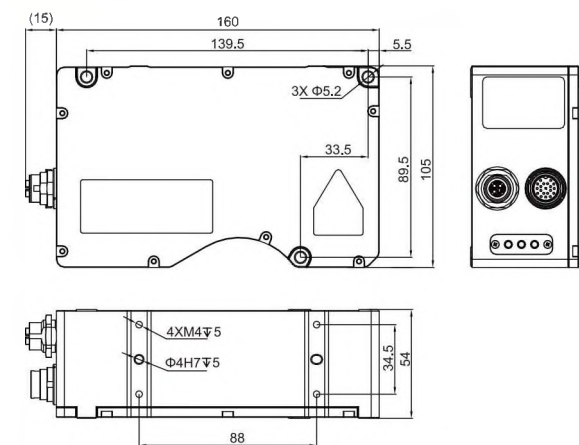
ESX-C20



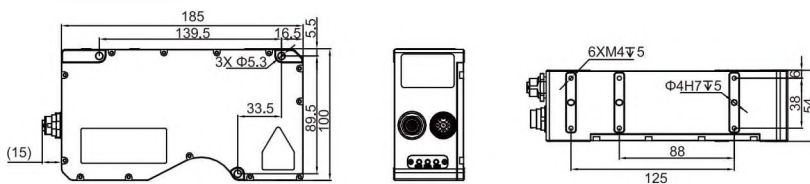
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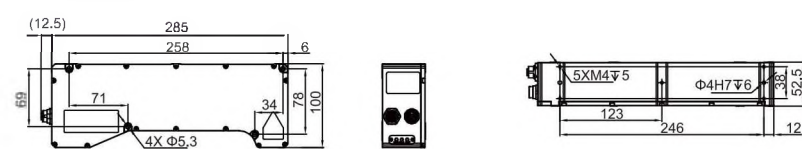
ESX-C100



ESX-C200/CE200



ESX-CE300

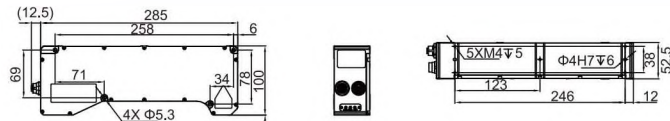


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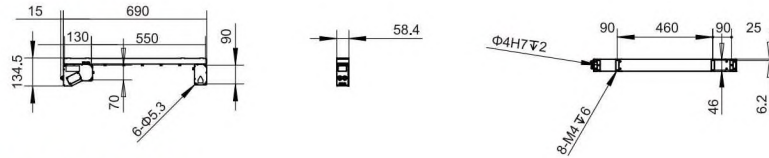
Dimensions

Unit:mm

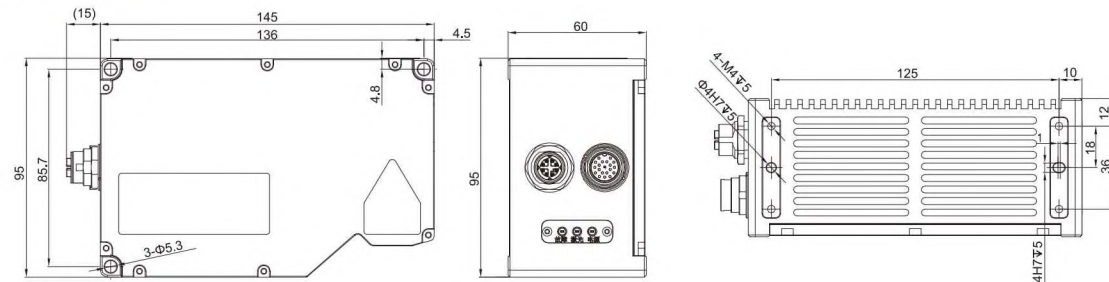
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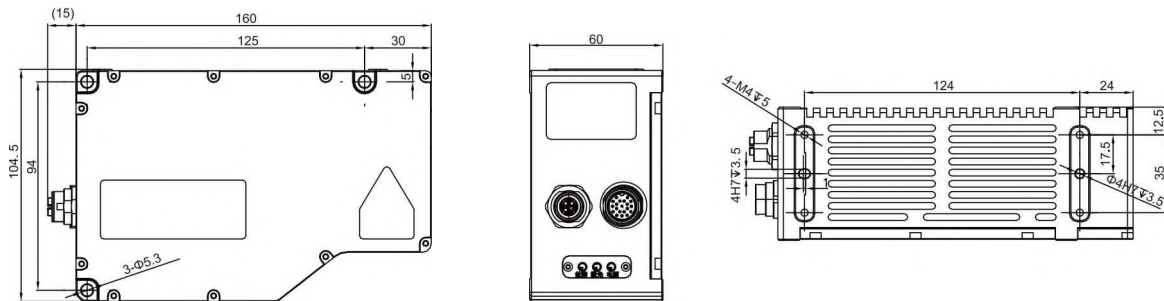
ESX-CE1000



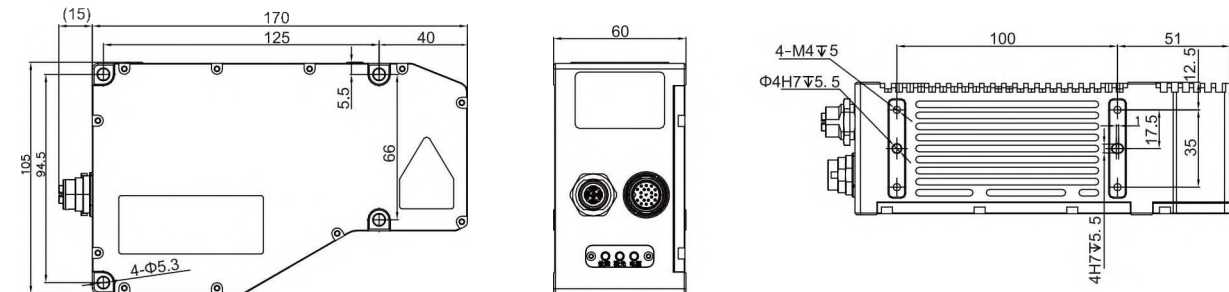
ESX-G10 ESX-P10



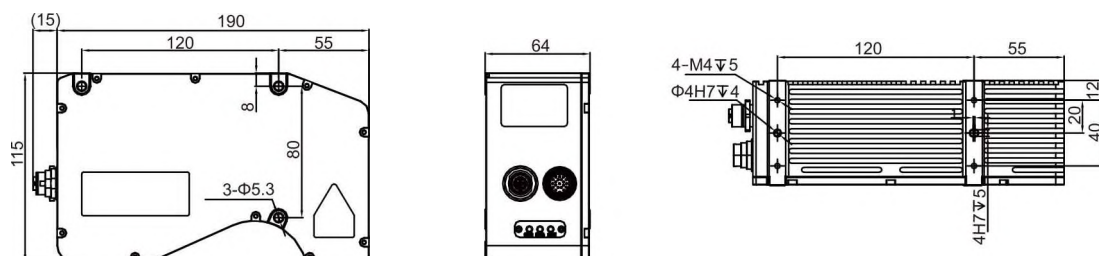
ESX-G20 ESX-P20



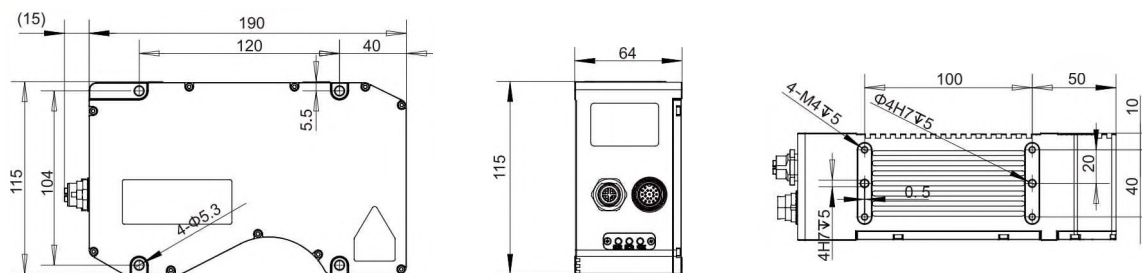
ESX-G100



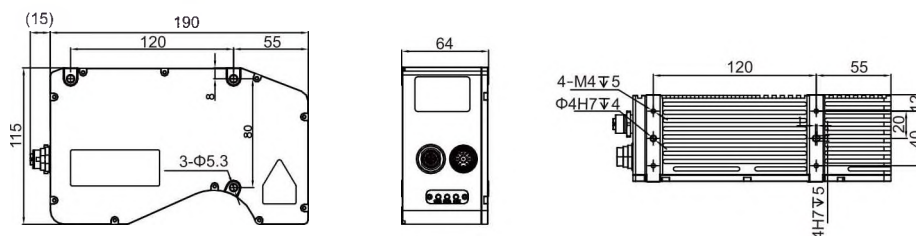
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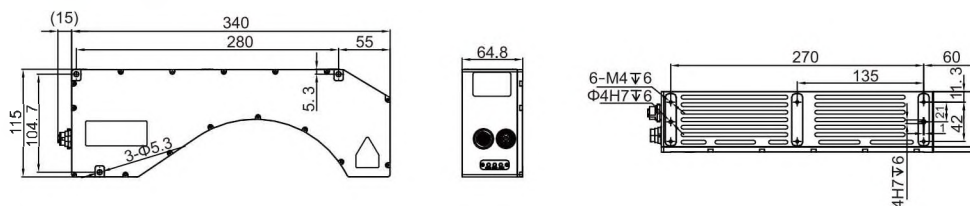
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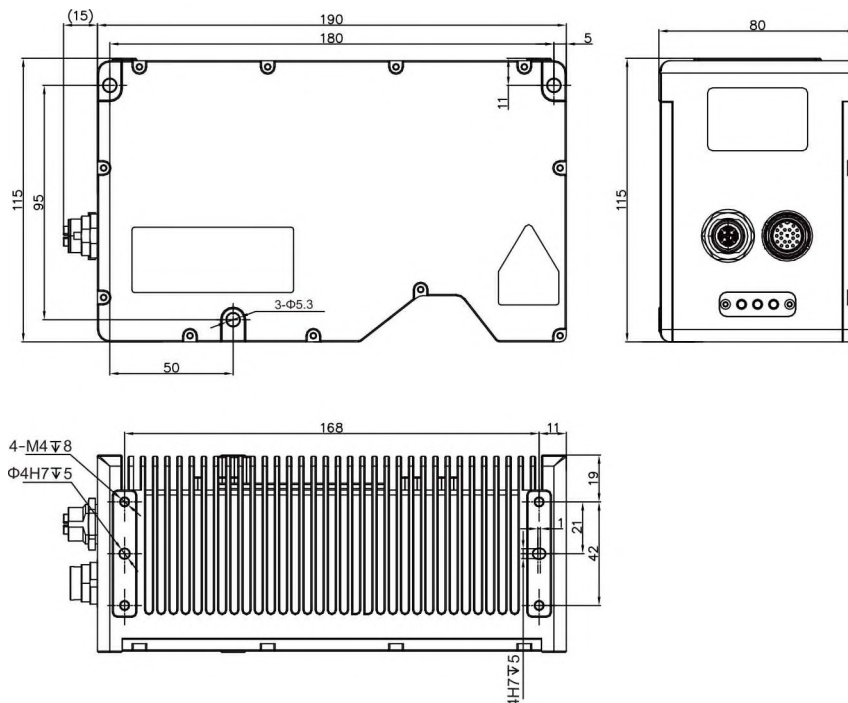
ESX-P200 ESX-PE200



ESX-PE300



ESX-H10 ESX-H20



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Interface Definitions

Circular connecting pins	Signal definition	Cable color	Feature
C	DIO2+	Orange	Multifunctional difference I/O2
B	DIO2 −	Orangish and white	
D	INDEX+	Yellow	Encoder Z-phase input
E	INDEX −	Yellowish and white	
I	A+	Gray	Encoder A-phase input
S	A −	Grayish	
H	B+	Purple	Encoder B-phase input
G	B −	Pure white	
T	DIO1+	Pink	Multifunctional difference I/O2
K	DIO1 −	Pink and white	
U	OUT+	Blue	Single-ended output
M	OUT −	Blue and white	
O	TRIG_EN+	Brown	Trigger enable
N	TRIG_EN −	Brown and white	
R	IN+	Green	Single-ended output
P	IN −	greenish white	
A	+24V	Red+red and white two wires	Camera Power
L	GND	Black+black and white two wires	Power ground
F	EARTH_GND	Silver	Grounding

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