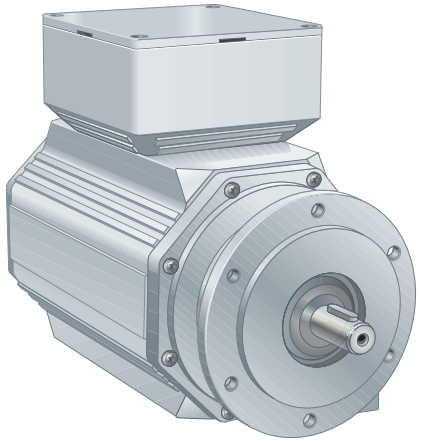
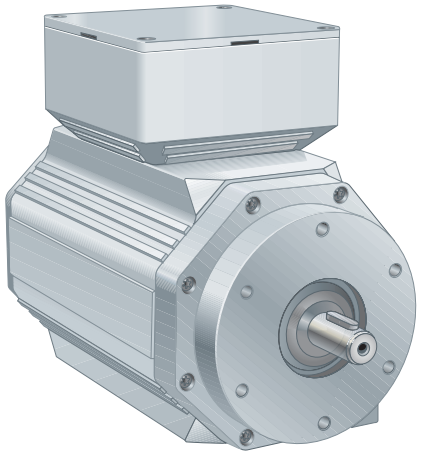
1608 — Extreme Shaft encoder, Absolute



85, Euro-flange



91, Standard flange

Short description:

>> Extreme resistance to mechanical loads, vibrations and shock

>> Exceptional durability in tough environments of high temperatures and dust

>> Available with SSI/EnDat output and with gateways for CANopen, DeviceNet™ and PROFIBUS

>> 25 bit resolution

>> Stainless steel options available on request

Suitable applications:

>> Specially designed for heavy industries such as steel, crane and oil

General information

Encoder data	
Type	ESA 1608
Operating temperature	-40 °C .. +85 °C (+100 °C for EnDat)
Storage temperature	-30 °C .. +85 °C
Ingress protection class	IP-67 according to IEC 60529
At shaft inlet	IP-67 according to IEC 60529
Vibration (55 to 2000Hz)	< 150 m/s^2 according to IEC 60068-2-6
Shock (6ms)	< 1000 m/s^2 according to IEC 60068-2-27
Cover material	Aluminium
Cover surface treatment	Anodized
Weight	Approx. 6900 g
Accuracy and resolution	
Total resolution	25 bit
Singleturn resolution	13 bit (8192 absolute positions per revolution)
Multiturn resolution	12 bit (4096 absolute number of revolutions)
Accuracy	± 1 LSB

Flange option

Flange type	85, Euro-flange	91, Standard flange
Outer diameter	ø115 mm	ø100 mm
Mounting holes	6 x M6	6 x M6
Flange material	Aluminium	Aluminium
Surface treatment	Anodized	Anodized

Shaft option

Shaft type	Ø11 with key nut	Ø15 with key nut
Axial shaft load	1000 N	1000 N
Radial shaft load	260 N	680 N
Mech. permissible speed	4000 rpm	4000 rpm
Shaft material	Stainless steel	Stainless steel
Moment of inertia	0,32 x 10^{-6} kgm^2	0,32 x 10^{-6} kgm^2

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Connection option

Connection
Terminal, M25 cable gland for ø13-16 mm cable

Connecting direction
Axial or Radial

Encoder type	EnDat	SSI
Function	***Terminal***	***Terminal***
+E Volt	1	1
0 Volt	2	2
Data	3	3
Data inverted	4	4
Clock	5	5
Clock inverted	6	6
Sensor +E Volt	7	7
Sensor 0 Volt	8	8
Code sequence	NA	9
Zero set	NA	10

NA=Not available

Electrical option

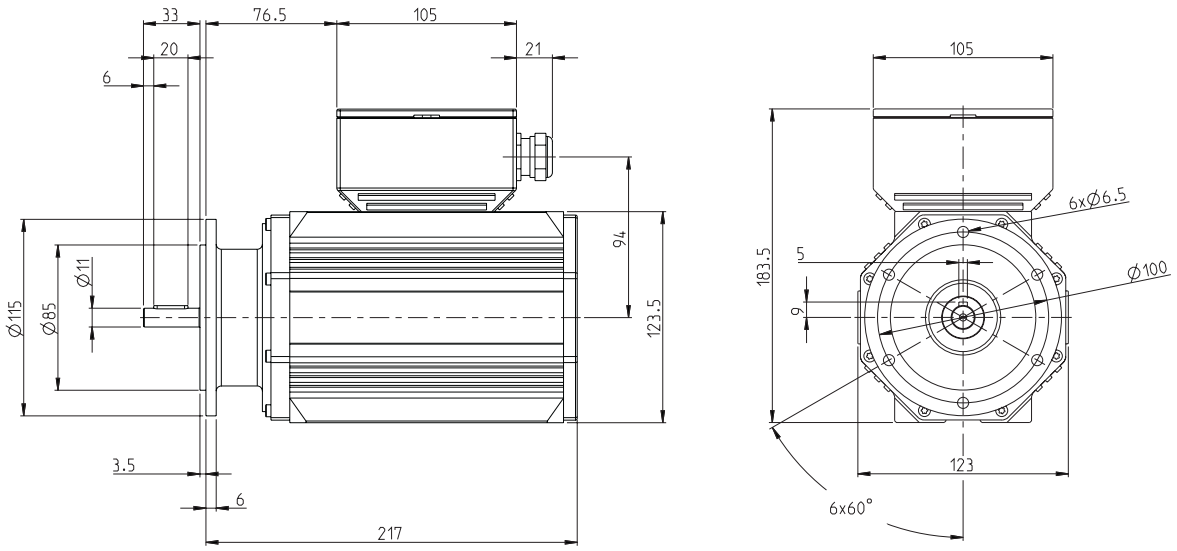
Output interface	EnDat	SSI
Power supply	5 Vdc ± 5 %	10-30 Vdc
Polarity protected	No	Yes
Data output	RS-485	
Clock input	RS-485	
Frequency range	Max 2 MHz	100 kHz -1 MHz
Cable length	Max 100 m (10m@2MHz)	Max 100 m
Code type	Binary	Gray
Current consumption	Max 200 mA	

Accessories

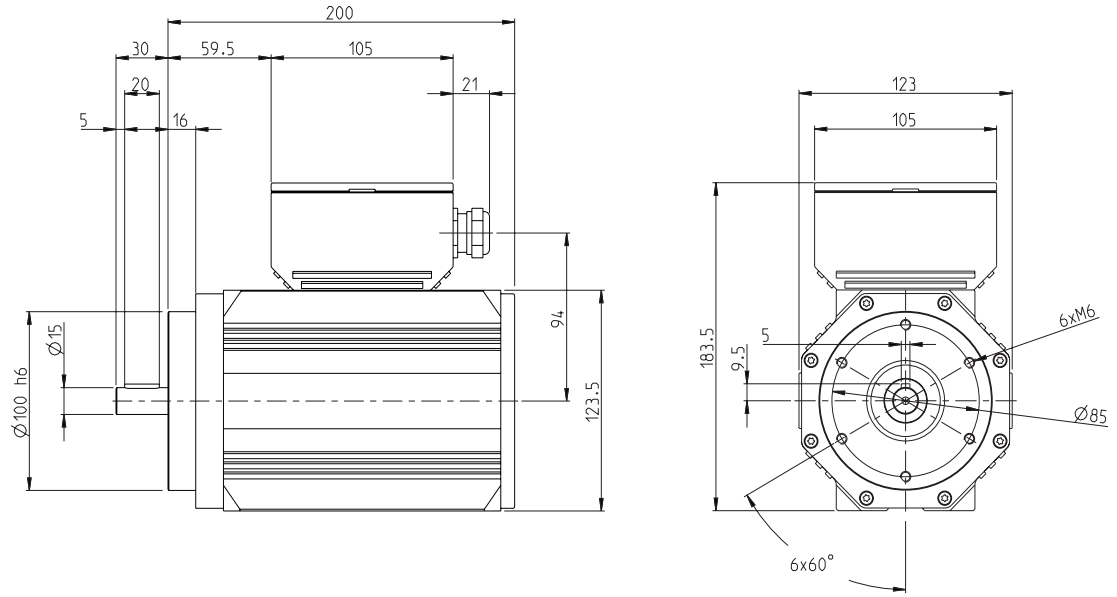
PROFIBUS Gateway	1300210
CANopen Gateway	1300230
DeviceNet™ Gateway	1300240
Base plate for mounting	680846-01
Shaft coupling 11-11 mm	46441P33P33
Shaft coupling 15-15 mm	46441P40P40

Dimensions

85, Euro-flange



91, Standard flange



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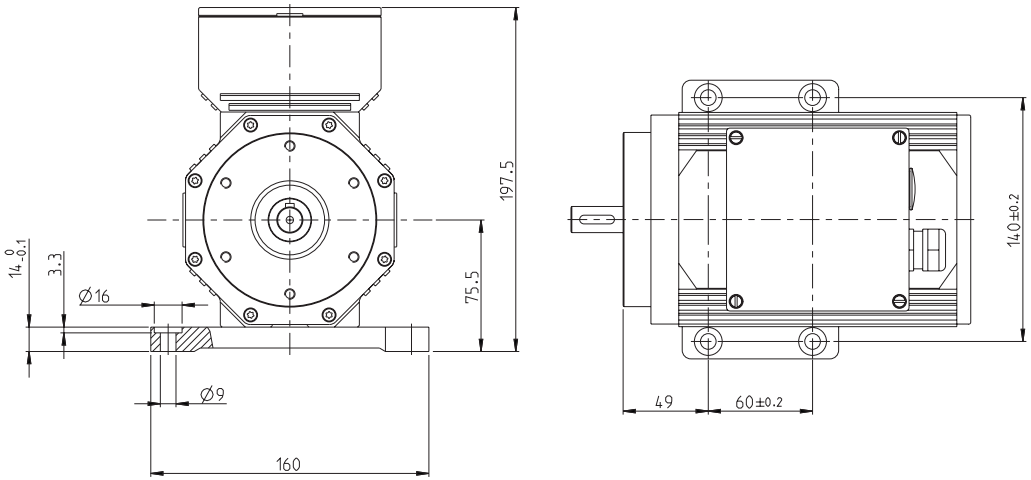
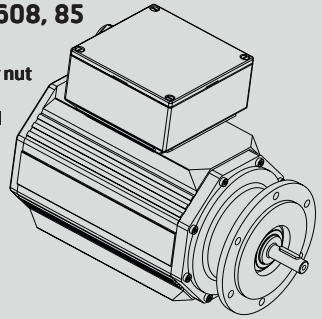
Mounted with base plate



Various combinations

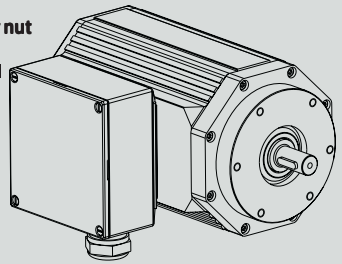
ESA 1608, 85

11 mm with key nut axial terminal box



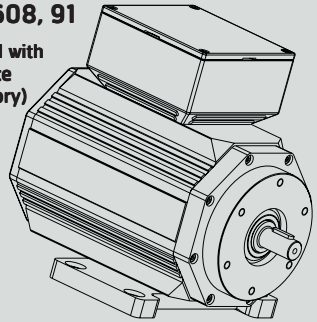
ESA 1608, 91

15 mm with key nut radial terminal box



ESA 1608, 91

Mounted with base plate (accessory)



Ordering information Tick your choice

Type		ESA 1608		
Flange (1)		91, Standard flange	85, Euro-flange	
Shaft (1)		Ø15 mm with key nut	Ø11 mm with key nut	
Electronics	Supply	5 Vdc	10-30 Vdc	
	Interface	EnDat	SSI	
Connection		Terminal		
Connecting direction		Axial	Radial	
Resolution		25 bit		

(1) Possible combinations: Standard flange / Ø15 mm shaft or Euro-flange / Ø11 mm shaft

Ordering example: ESA 1608 85 Ø11 wk 5 Vdc SENB Terminal Axial 25 bit

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