

# Heavy Duty Series

Solid shaft with EURO flange B10  
1000...10,000 pulses per revolution



## FHD S115 Series



### Features

- Robust, compact housing
- Two bearings with large distance
- High shaft load up to 300N
- Highest operating speed 10,000 rpm
- Terminal box, M23 connector, cable options

### Technical data-electrical ratings

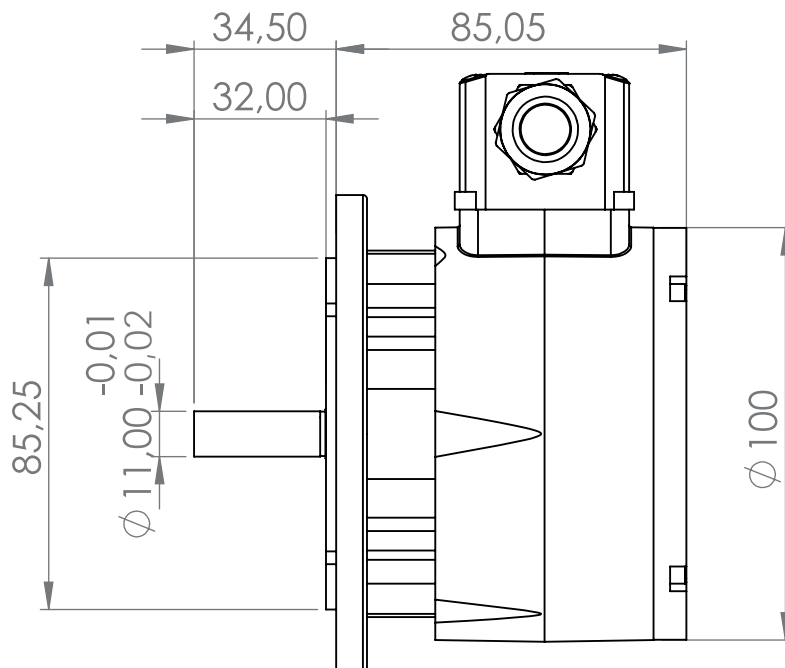
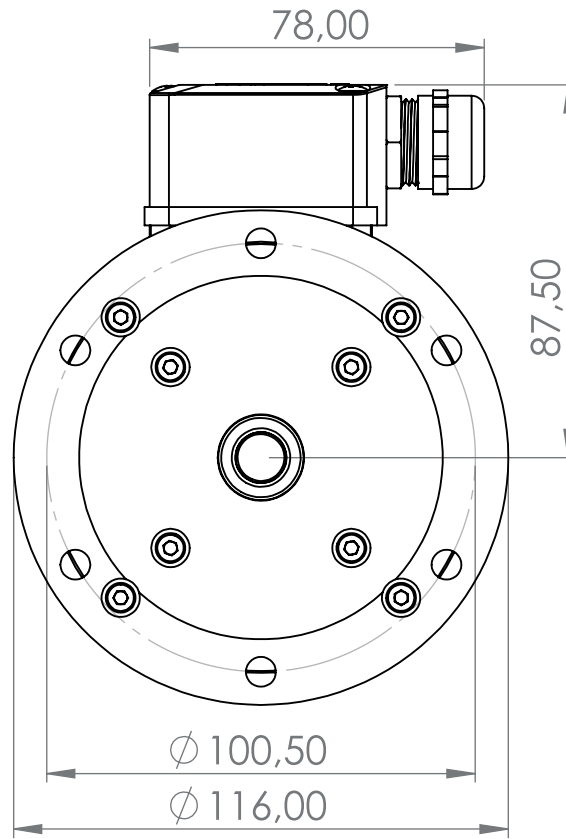
Voltage supply	9VDC to 30VDC 5VDC $\pm$ 5%
Consumption w/o load	$\leq$ 100 mA
Resolution (steps/turn)	1000...10.000 ppr
Phase shift	90° $\pm$ 15°
Scan ratio	45...55%
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	<200 kHz
Output signals	90° shifted A and B, Z+ inverted
Output circuit	TTL / RS422 Push-pull short-circuit proof NPN Open Collector
Transmission length	$\leq$ 400m at 100kHz
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Approval	CE

### Technical data-mechanical ratings

Dimensions (flange)	B10 flange / 115 mm
Shaft loading	$\leq$ 240 N axial $\leq$ 300 N radial
Protection DIN EN 60529	IP66
Operating speed	$\leq$ 10,000 rpm
Operating torque	$\leq$ 4 Ncm
Rotor moment of inertia	160 gcm <sup>2</sup>
Materials	Housing: die-cast aluminum Shaft: stainless steel
Shaft diameter	$\varnothing$ 11 mm solid shaft
Bearings lifetime	2x10 <sup>9</sup> rev. at 100% of full rated shaft load (minimum)
Operating temperature	-40...+100°C
Storage temperature	-40°C up to +90°C
Weight approx.	1.2 kg

### FHD S115 Series

#### Mechanical Dimensions



# Heavy Duty Series

Cable / Connector Wiring, Part Number

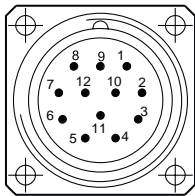
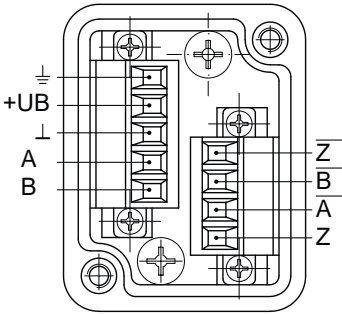


## FHD S115 Series

### Terminal Connection

#### FHD S115

Connecting terminal terminal box

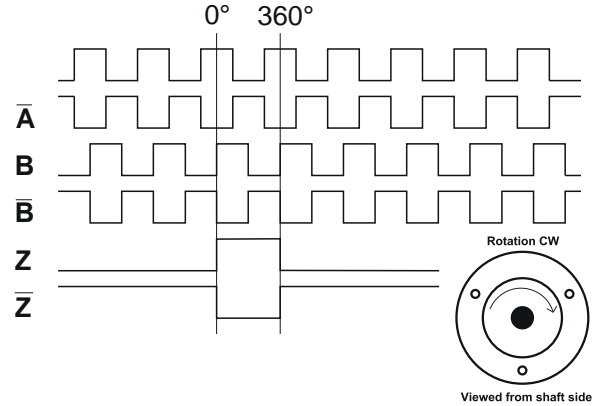


#### FHD S115

Flange connector  
M23, 12-pin

Pin	Assignment
1	$\overline{B}$
2	nc
3	Z
4	$\overline{Z}$
5	A
6	$\overline{A}$
7	nc
8	B
9, 10	nc
11	GND
12	+UB

### Pulse Diagram



### Encoder Part Number

**FHD 115 S 11 6 30V 1024 - T**

**Housing**  
115 : 115 mm

**Flange**  
S : Servo flange

**Shaft diameter**  
11 : 11 mm shaft with keyway

**Output Channels**  
2 : AB  
3 : ABZ  
4 : AB+A'B'  
6 : ABZ+A'B'Z'

**Electrical Connections**  
T : Terminal box  
M : M23, 12 pin connector  
TC : Terminal box with cable  
R : Redundant Dsub connection  
DST-R2 : Dsub terminal box with 2 meter radial cable

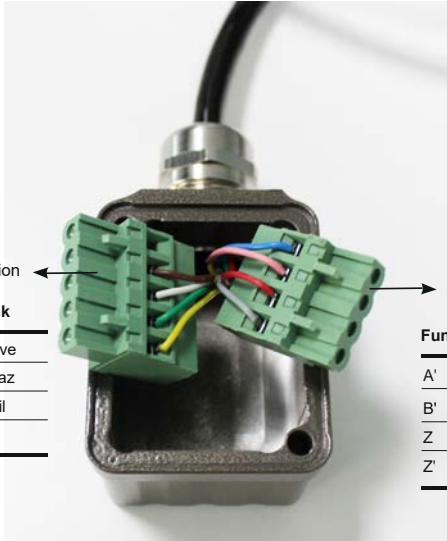
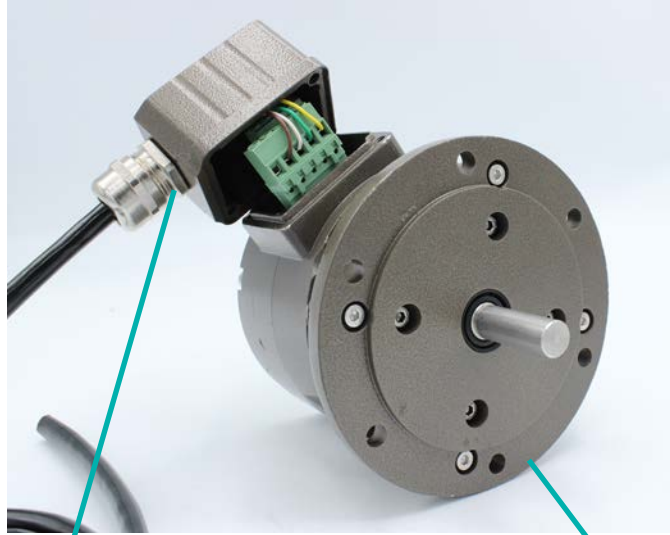
**PPR Options**  
1000 - 1024 - 2000 - 2048 - 2500 - 4096 - 5000 - 8092 - 10000

**Supply Voltage and Output Circuit**  
5V : 5V in / out  
5VHC : 5V in / out High Current version  
245V : 5-30V in 5V out  
30V : 5-30V in / out  
30VHC : 5-30V in / out High Current version

## FHD S115 Series

### Electrical Connection Details

#### TC : Terminal box version

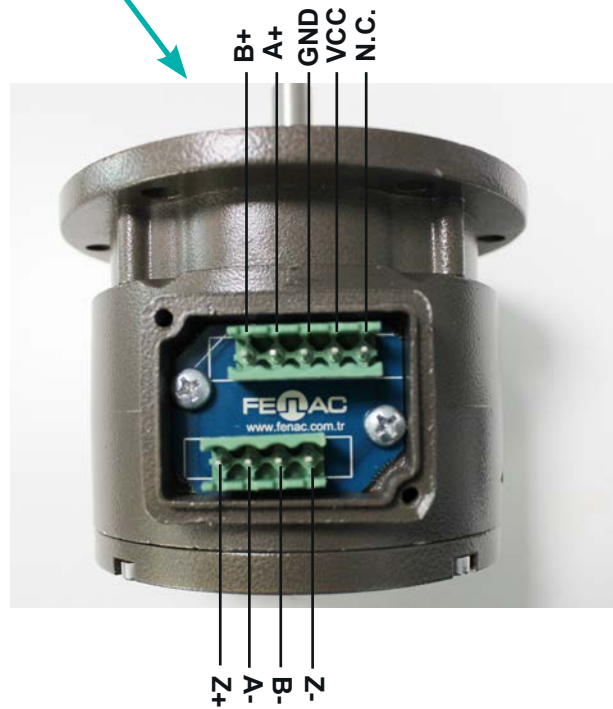


5 pin terminal block connection

4 pin terminal block connection

Function	Color	Renk
+VB	Brown	Kahve
GND	White	Beyaz
A	Green	Yeşil
B	Yellow	Sarı

Function	Color	Renk
A'	Red	Kırmızı
B'	Pink	Pembe
Z	Gray	Gri
Z'	Blue	Mavi



## FHD S115 Series

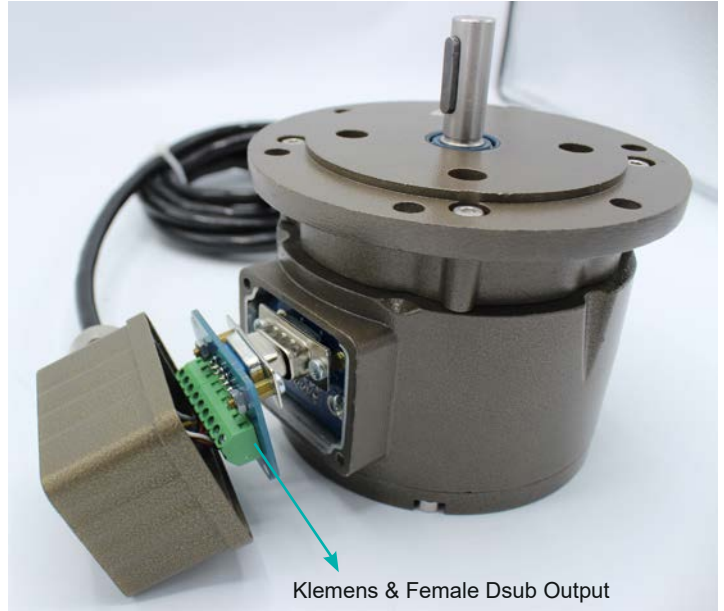
### Electrical Connection Details

#### DST-R2 : Dsub terminal box with 2 meter cable version



Female Dsub Output

Male Dsub Output



Klemens & Female Dsub Output

