

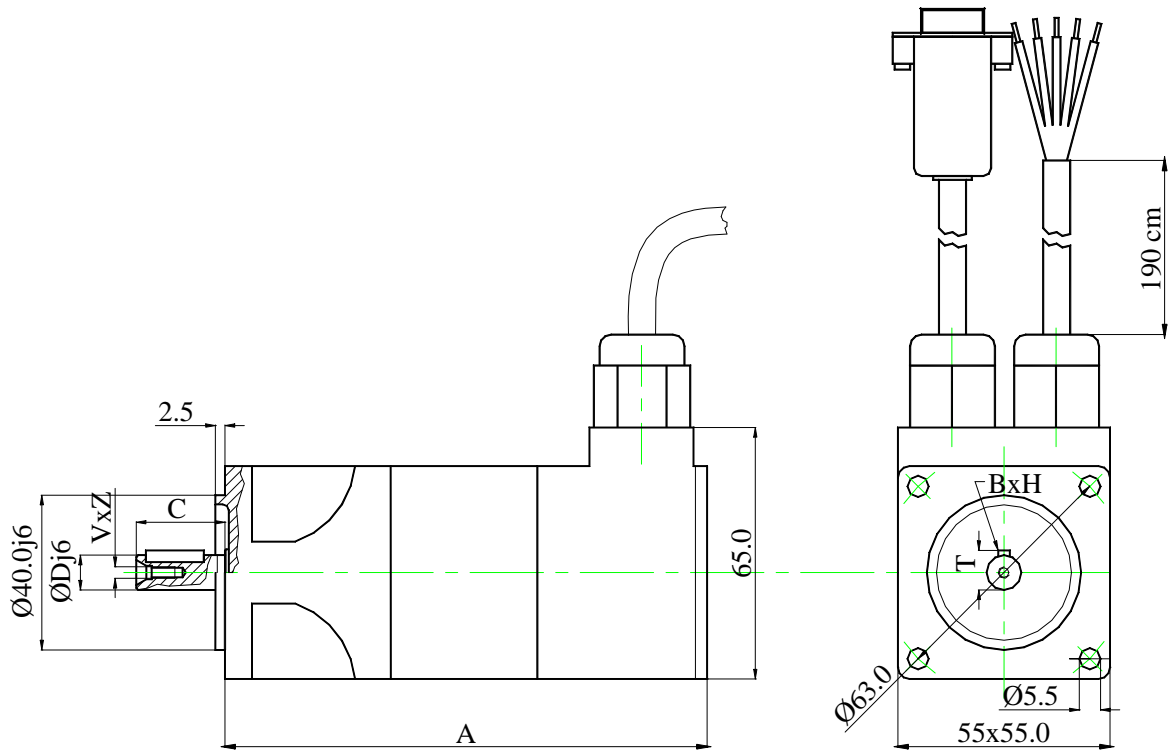


T E C H N O S O F T

Brushless Motor 370W, 230VAC with Encoder

XRB-55-06-602-CE

FOR EVALUATION WITH MCK24x/24xx/28x or IMDM15/INTELLMO 1215-EK



Part Number	A
RB 55/3	125
RB 55/6	160

Shaft	C	D	B x H	V x Z	T
Standard	23	9	3 x 3	M3 x 8	10.2
Oversize	23	11	4 x 4	M4 x 10	12.5

Dimensions: mm
Drawing not to scale



Specifications

Description	Value	Units
Nominal stall torque (shaft blocked), $\Delta T = 105\text{ }^{\circ}\text{C}$	0.8	[Nm]
Nominal stall current (shaft blocked), $\Delta T = 105\text{ }^{\circ}\text{C}$	1.9	[A rms]
Peak torque	2.8	[Nm]
Peak current	6.6	[A rms]
Back-EMF (electro motive force) voltage at 1000 rpm (+/-5%)	25.7	[V / Krpm]
Torque constant (+/-5%)	0.425	[Nm/A]
Nominal speed	6000	[rpm]
Nominal power	377	[Watt]
Motor inertia	0.25	Kg x cm ²
Terminal resistance +/-10%	7.9	[Ohm]
Terminal inductance +/-10%	10.7	[mH]
Weight	2.1	[Kg]
Number of pole-pairs	2	[-]

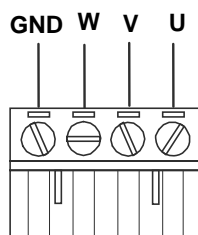
Motor Connections

Motor

Color	Description
Gray	Phase U
Green	Phase V
Brown	Phase W
Pink	PTC
White	PTC

Connection table

Motor wire color	Meaning	ACPM750 Connector J11	IMDM15 / INTELLMO1215-EK Connector J14
Gray	Phase U	Pin 3	Pin 4
Green	Phase V	Pin 2	Pin 5
Brown	Phase W	Pin 1	Pin 6
Yellow	Earth	Pin 4	Pin 7





Feedback

The motor is provided with a 500 lines incremental encoder with differential inputs and 3 digital Hall sensors. The following table summarizes the meaning of the signals from these sensors.

Wire Color	Name	Function	Hall commutation sequence						
			0°	+60°	+120°	+180°	+240°	+360°	
Red	+Vdc	+5Vdc supply for encoder and Hall sensors							
Black	0 Volt (GND)	Ground							
Green	A	A signal	Phase A	+	+	NC	-	-	NC
Yellow	B	B signal	Phase B	-	NC	+	+	NC	-
Blue	Z	Z (index) signal	Phase C	NC	-	-	NC	+	+
Brown	/A	Complementary A signal	Hall 1	1	1	0	0	0	1
Orange	/B	Complementary B signal	Hall 2	0	1	1	1	0	0
White	/Z	Complementary Z signal	Hall 3	0	0	0	1	1	1
Gray	U	Hall sensor 1							
Violet	V	Hall sensor 2							
Gray / Pink	W	Hall sensor 3							
Red / Blue	/U	Complementary Hall sensor 1							
White / Green	/V	Complementary Hall sensor 2							
Brown / Green	/W	Complementary Hall sensor 3							

Encoder

Encoder - Type Eltra EF36K		
Resolution	lines	500
Output type	channels	2, quadrature
Supply voltage	V	5V +/- 5%
Supply current	mA	150
Output current	mA	15

The motor feedback can be provided in two connectors' versions:

- **Encoder connector (5 positions)**

In this case, the encoder connector can be plugged into the J4 connector of the ACPM750 feedback connector, or into the J10 connector of the IMDM15 / INTELLMO 1215-EK intelligent power amplifier, as described in the following table:



Wire color	Meaning	J4 connector on ACPM750	J10 connector on IMDM15 / INTELLMO 1215-EK
Green	Channel A	Pin 3	Pin 6
Yellow	Channel B	Pin 5	Pin 8
Blue	Index	Pin 2	--
Black	GND	Pin 1	Pin 1
Red	+5 VCC	Pin 4	Pin 2, Pin 4

- **Encoder connector (10 positions)**

In this case, the encoder connector can be plugged into the J3 connector of the ACPM750 feedback connector, or into the J10 connector of the IMDM15 / INTELLMO 1215-EK intelligent power amplifier, as described in the following table:

Wire color	Meaning	J3 connector on ACPM750	J10 connector on IMDM15 / INTELLMO 1215-EK
Green	Channel A	Pin 6	Pin 6
Brown	Channel A-	Pin 5	Pin 5
Yellow	Channel B	Pin 8	Pin 8
Orange	Channel B-	Pin 7	Pin 7
Blue	Index	Pin 10	--
White	Index-	Pin 9	--
Black	GND	Pin 1	Pin 1
Red	+5 VCC	Pin 2, Pin 4	Pin 2, Pin 4

- **Hall sensors connections**

The Hall sensor leads can be connected to the screw terminals of the J10 connector of the ACPM750 inverter, or to the J10 connector of the IMDM15 / INTELLMO 1215-EK intelligent power amplifier, as described in the following table:

Wire color	Meaning	J10 connector on ACPM750	J10 connector on IMDM15 / INTELLMO 1215-EK
Gray	U (Hall 1)	Pin 9	Pin 3
Violet	V (Hall 2)	Pin 10	Pin 4
Gray / Pink	W (Hall 3)	Pin 11	Pin 5
Black	GND	Pin 12	Pin 2
Red	+5 VCC	Pin 8	Pin 1