AXOR INDUSTRIES motors & drives since 1988 ITALY

MACK INDY

— MKYD —

PRELIMINARY 26/02/2016

DRIVE MODEL	MKYD 230				
SIZE (A)	1.5/3	2.5/5	3.5/7	5/10	8/16
Rated Current / Peak Current x 5" (Arms)	1.5 / 3	2.5 / 5	3.5 / 7	5 / 10	8 / 16
Power & Backup Logic Supply	1 x 230 VAC (±10%) - 50/60 HZ (grounded system only)				
Case	A			A-V	

MOTOR MODEL			MKSM 40		MKSM 60		MKM 70			MKM 85		
SIZE			M	L	M	L	S	M	L	S	M	L
Mo stall Torque (Δt = 100°C)		(Nm)	0.16	0.32	0.65	1.3	0.9	1.5	2.0	1.8	3.3	5
230 VAC	Io¹ Stall Current	(Arms)	0.6	0.85	1.35	2.3	1.1	1.5	2	2	3.3	4.7
Drive's Voltage	K_T Torque Constant	(Nm / Arms)	0.26	0.38	0.45	0.52	0.7	0.9	0.9	0.8	0.9	0.95
	N_n Rated Speed	(Rpm)	3000									
Power		(W)	50	100	200	400	280	470	630	570	1050	1600
W weight / W1 with brake		(kg)	0.35 / 0.44	0.5 / 0.59	1 / 1.4	1.4 / 1.8	1.4 / 1.6	1.9 / 2.1	2.4 / 2.6	2.2 / 2.5	3.2 / 3.5	4.2 / 4.5
J Rotor Inertia / J_B with brake		(Kgm^2)·10 $^{-4}$	0.025/0.044	0.38/0.057	0.14 / 0.15	0.24 / 0.25	0.35 / 0.4	0.7 / 0.75	1.0 / 1.05	1.3 / 1.5	2.2 / 2.4	3.1 / 3.3
BRAKE	stall torque (24 VDC +6% -10%)		N.A.		2 Nm (0.5 ADC)		2 Nm (0.45 ADC)			4.5 Nm (0.5 ADC)		

Mo : speed 5 ÷100rpm - mounted on AL flange (300x300x6.5 mm, 65°C max) - Resolver - no brake

Io¹ : motor with encoder, refer to **Mo¹** (**Mo** -10%) - with brake -5%

STANDARD FEATURES

- Driving motor range up to **2500W**
- In-rush and regen circuits on board
- **Speeder-One®** software interface with **USB** for setting and monitoring
- **SE** Serial Encoder Feedback
- **CD0** Clock and Direction Command
- Operating frequency 8KHz ♦ Bandwidth loop: 2KHz current / 200Hz velocity
- Ambient temp.[1]: - operating at rated data: ..... 0 ÷ 40°C(no derating)
  - rated & pk current derating: 40 ÷ 55°C max (2.5% / °C)
  - storage ..... -20 ÷ 55°C
- Ambient Humidity[1]: - operating & storage ..... 85% RH max
- Altitude (a.m.s.l.): - operating & storage 1000m
  - rated & pk current derating: up to 2500m (1.5% / 100m)
- Enclosure protection: IP20 ♦ Storage duration: 1 year max[2]

OPTIONS

- **RD0** differential analog ref. ± 10v (13 bit)
- **M3** Emulated Encoder connector
- **ST0** Safe Torque off safety function
- **AE** Absolute Multiturn Encoder feedback
- **CB0** Can Bus
- **EMC** Line filter
- **EC** Comm. Enc. feedback

MOTOR SPEC.

- 8 Poles sinusoidal B.E.M.F. permanent rare earth magnets
- Medium - high rotor inertia
- Very low torque fluctuation at minimum speed
- 3 x stall torque overload capacity
- Feedback: Serial Incremental Encoder (std)
  Comm. Incremental Encoder (opt)
  Absolute Multiturn Encoder (opt)
- Ambient temp.[1]: operating at rated data 0 ÷ 40°C
  storage -20 ÷ 60°C
- Ambient Humidity[1]: operating & storage 85% RH max
- Altitude (m.s.l.): operating & storage 1000m
- Vibration: ..... 5g max
- Insulation class: F ♦ Protection class: IP54 (IP65 optional)

CABLE SPEC.

- Mobile usage for chain tracks, flame / oil resistance
- External sheating: PUR polyurethane
- Cycles: 5 million ♦ Minimum bending radius: 7 x Ø
- Operating temperature: ..... -25°C / +80°C
- Trail speed: 300m / min. max ♦ Acceleration: 20m / sec²
- DIN VDE

NOTE: [1] Free from condensation [2] After one year off storage the electrolitic capacitors must be re-formed. Contact AXOR for details.

EtherCAT CE Pb RoHS COMPLIANT

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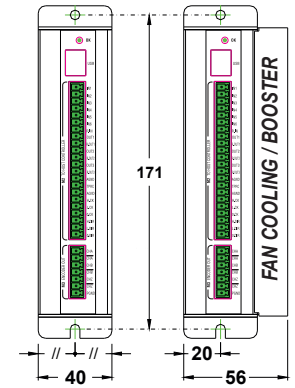
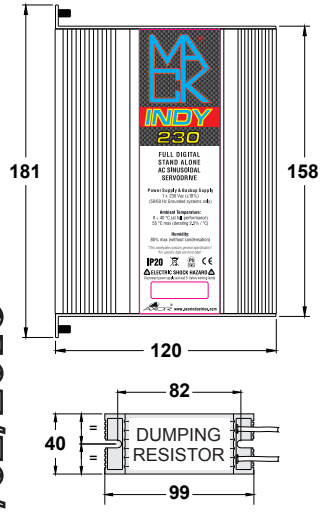
AXOR INDUSTRIES

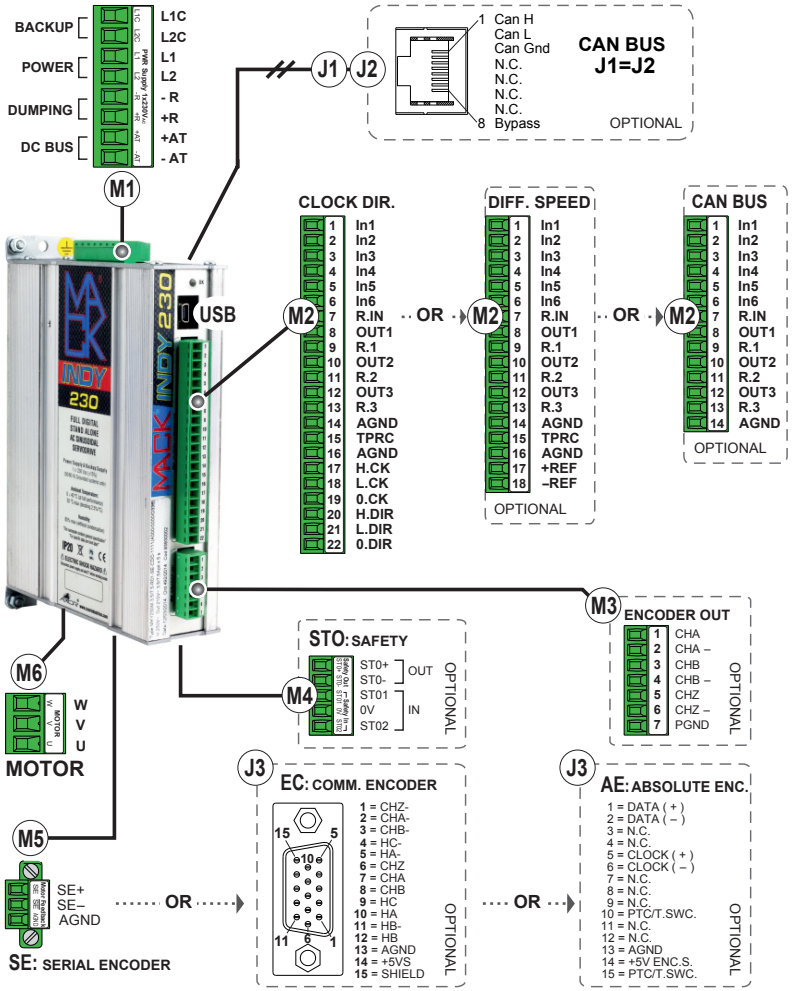
PRELIMINARY 26/02/2016

CASE A / CASE A-V

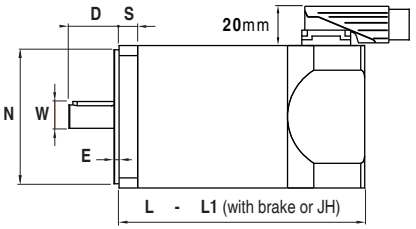


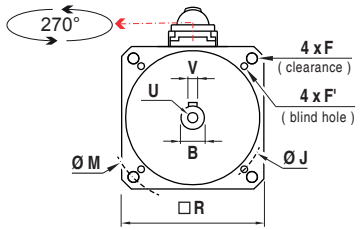
(WGT 1,1Kg) (WGT 1,3Kg)

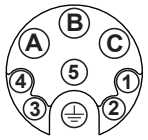




TYPE	Mo - Pwr Nm - W	L mm	L1 mm	B h6 mm	D mm	V h9 mm	W mm	U mm	N h7 mm	M mm	F mm	J mm	F' mm	E mm	S mm	R mm
MKSM 40 M	0.16 - 50	88	120	8	25	3 x 12	9.2	M3 x 6	30	46	4.3	-	-	2.5	5	40 □
MKSM 40 L	0.32 - 100	105	137													
MKSM 60 M	0.65 - 200	105	135	14	30	5 x 20	16	M5 x 10	50	70	5.5	-	-	3	8	60 □
MKSM 60 L	1.3 - 400	133	163													
MKM 70 S	0.9 - 280	100	125	11	23	4 x 18	12.5	M4 x 10	60	90	5.5	75	Ø4.2 x 10	2.5	10	75 □
MKM 70 M	1.5 - 470	125	150													
MKM 70 L	2.0 - 630	150	175													
MKM 85 S	1.8 - 570	115	145	14	30	5 x 25	16	M4 x 10	80	100	6.5	-	-	3	11	85 □
MKM 85 M	3.3 - 1050	145	175													
MKM 85 L	5.0 - 1600	175	205													







STCH	FUNCTION	WIRE COLOR	MARK
A / C / B	U / V / W MOTOR	BLACK	U-1/V-2/W-3
1 / 2	(+) / (-) BRAKE	WHITE / BLACK	-
4 / 3	SE+ / SE-	BLU / WHITE	-
⏚	PE	GREEN YELLOW	-
5	N.C.	-	-

MACK® INDY HARDWARE CODE / SW CODE

MKYD 230M 1.5/3-R01 SE-RD0-0000-Sxxx (X000/X000/X000)

- **DRIVE LINE**
- **MODEL:** 230M = 1x230V$_{AC}$
- **SIZE:** (see table on reverse)
- **DUMPING SIZE:** R01=100W / 39Ω ext. resistor (opt)
- **FEEDBACK:** **SE** = Serial Encoder (std) / **EC** = Commutation Encoder (opt) / **AE** = Absolute Multiturn Encoder (opt)
- **CONTROL MODE:** **CD0** = Clock Dir. (std) **RD0** = Diff. ref. (opt) / **CB0** = CAN Bus (opt)
- **STO** (Safe torque Off): 0 = w/out (std) 1 = with (opt)
- **M3** (Emulated Enc.): 0 = w/out (std) 1 = with (opt) (std for **RD0**)
- **T** (Tropicalized): 0 = w/out (std) 1 = with (opt)
- **EMC** (line filter): 0 = w/out (std) 1 = with (opt)
- **SPECIFIC**
- **FW:**
- **SW:**
- **SETTING FILE:**

MACK® MOTOR

MKSM60 M 30/23-000 D 00X P0 MKES1 ST-1 Sxxx

- **SERIES:**
- **SIZE:** S, M, L
- **SPEED:** 30 = 3000 Rpm
- **VOLTAGE:** 23 = 1x230V$_{AC}$
- **MOUNTING FLANGE:** 000 = std (see table)
- **HOLES:** D = B5 thru (std) C = B14 threaded (opt)
- **SHAFT DIAMETER:** 00 = std (see table)
- **SHAFT KEY:** **X** = with key (std), **W** = w/out key (opt)
- **TH.PROTECTION:** **P** = PTC (std) **N** = w/out (opt)
- **BRAKE:** **0** = w/out (std) **1** = with (opt)
- **FEEDBACK:** **MKES1** = **Mack®** Serial Enc. (std) / **MKEC1** = **Mack®** Comm. Enc. (opt)
- **CONNECTION:** **ST** = Sprigtec M15 (std)
- **IP CLASS:** **1** = IP54 (std) **2** = IP65 (opt)
- **SPECIFIC**

MACK® CABLE

MKCH 5 STCH / 00-030 Sxxx

- **CABLE LINE:** Preassembled Hybrid cables
- **CURRENT RATING:** **5** = uo to 5 Arms
- **ASSEMBLY MOTOR SIDE:** **STCH** = Springtec M15 conn.
- **ASSEMBLY DRIVE SIDE:** 00 = Flying leads (no conn.)
- **LENGHT:** 030 = 3m, 050 = 5m, 070 = 7m, 100 = 10m
- **SPECIFIC**

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