AXOR ★ INDUSTRIES ★ motors & drives SINCE 1988 ITALY

MACK INDY

MKYD

CANopen EtherCAT. Modbus RS 485 RTU

1x230 VAC	8 ARMS	2400 W

P. N. : D.S. / 07.12.18 / MKYDM / 11

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 sec (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			MKM 42		MKM 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
WINDING CODE			F36	F46	J36	J46	K26	K36	K46	Q26	Q36	Q46
230 VAC Drive's Voltage	Io^1 Stall Current	(Arms)	0.5	0.9	1.45	2.4	1.1	1.5	2	2	3.3	4.7
	K_T Torque Constant	(Nm / Arms)	0.33	0.33	0.41	0.5	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}	0.03 / 0.05	0.04 / 0.06	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%)			0.4 Nm (0.5 A_{DC})		2 Nm (0.5 A_{DC})		2 Nm (0.45 A_{DC})			4.5 Nm (0.5 A_{DC})		

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

Io^1 : motor with encoder, refer to **Mo^1** (**Mo** -10%) - with brake -5%

STANDARD FEATURES

- Driving motor range up to 5 Nm (2500W)
- Built-in in-rush and regen circuits
- **Speeder-One®** software interface with **USB** for setting and monitoring
- **SE** Serial Encoder Feedback
- **CD0** Clock and Direction Command
- **Mack PLC** integrated (ANSI C or C++) 1 ms Realtime
- Operating frequency 8KHz
- Update rate : ..... - Current loop = 8KHz - Position & Velocity = 4KHz
- 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)
- Protection rating: IP20
- Storage time: 1 year[2]

OPTIONS

- **RD0** differential analog ref. ± 10v (13 bit)
- **MB0** RS 485 ModBus-RTU Interface
- **AE** Absolute Multiturn Encoder feedback
- **M3** Emulated Encoder connector
- **ST0** Safe Torque off safety function
- **CB0** Can Bus
- **ETC** Ether CAT control mode
- **EC** Comm. Enc. feedback
- **EMC** Line filter

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 rating: IP54 (IP65 optional)
- cULus

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 storage the electrolytic capacitors must be reformed. Contact AXOR for details.

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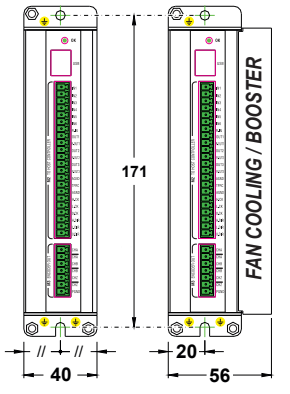
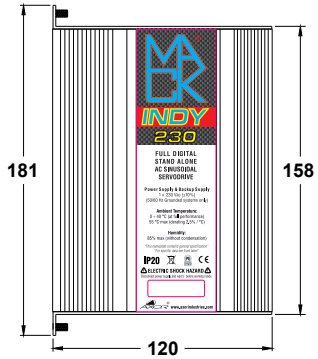
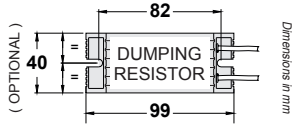
AXOR INDUSTRIES

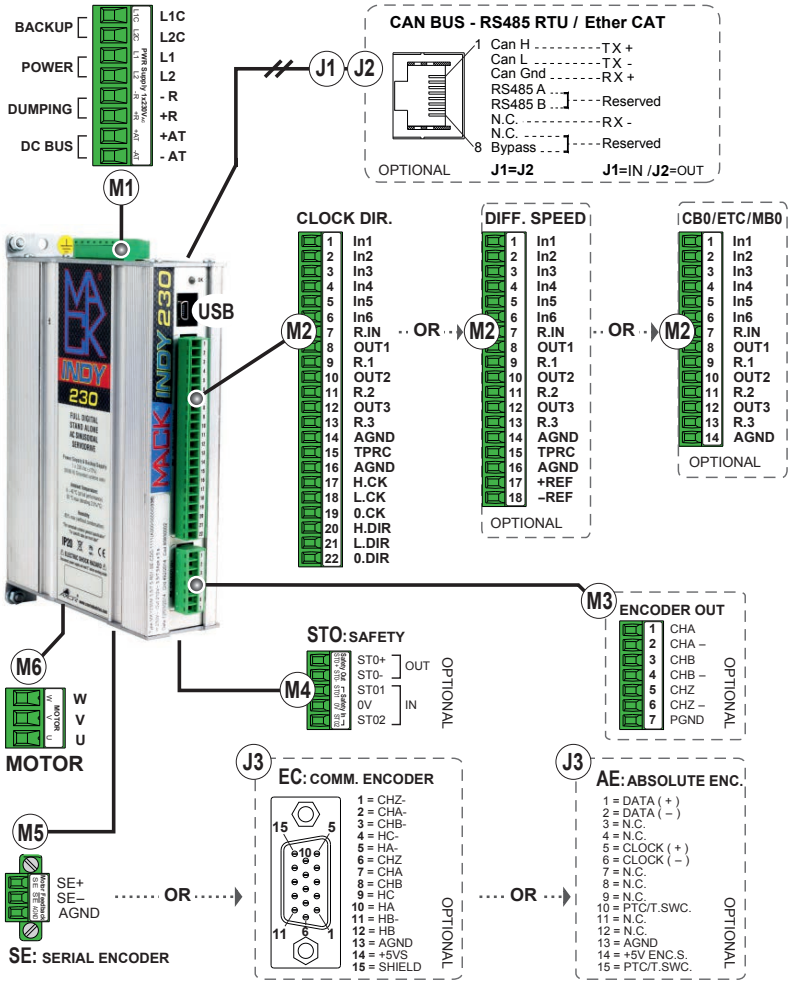
CASE A CASE A-V



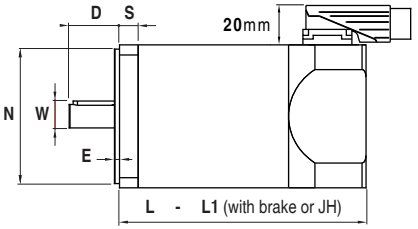
(WGT 1.1Kg) (WGT 1.3Kg)

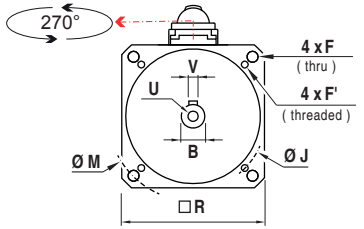


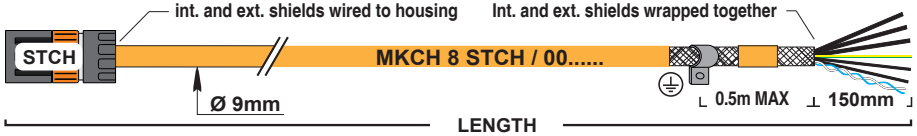




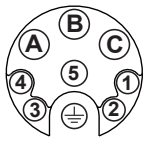
TYPE	Mo - Pwr Nm - W	L mm	L1 mm	B h6 mm	D mm	V h9 mm	W mm	U mm	N h7 mm	M mm	F mm	J mm	F' mm	E mm	S mm	R mm
MKM 42 M	0.16 - 50	93	121	8	25	3 x 12	9.2	M3 x 6	30	45/48	3.2	-	-	2.5	7.5	42 □
MKM 42 L	0.32 - 100	107	135													
MKM 60 M	0.65 - 200	91	124	14	30	5 x 20	16	M5 x 10	50	70	5.2	-	-	2.5	7	60 □
MKM 60 L	1.3 - 400	105	138													
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													







MOTOR SIDE VIEW



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: **MKYD 230M 1.5/3-D01 SE-CD0-0000-Sxxx**

SW CODE: **(X000/X000/X000)**

DRIVE LINE
MODEL: 230M = 1x230V$_{AC}$
SIZE: (see table on reverse)
DUMPING CIRCUIT SIZE:
D01= for R01 / 300 (100W / 39Ω ext. resistor) (std)
(ext. resistor is not included)
FEEDBACK: **SE** = Serial Enc. (std) , **EC** = Comm. Enc. (opt)
AE = Absolute Multiturn Enc. (opt)
CONTROL MODE: **CD0** = Clock Dir. (std) **RD0** = Diff. ref. (opt)
CB0 = CAN Bus (opt) **ETC** = Ether CAT (opt)
MB0 = RS 485 MODBUS-RTU (opt)

SPEC
EMC (line filter):
0 = w/out (std) 1 = with (opt)
T (Tropicalized):
0 = w/out (std) 1 = with (opt)
M3 (Emulated Enc.):
0 = w/out (std) 1 = with (opt) (std for **RD0**)
STO (Safe torque Off):
0 = w/out (std) 1 = with (opt)

FW
SW
CONFIG FILE

MACK® MOTOR

MKM85 M Q36 -000 D 00X P 0 MKES1 STR 1X X Sxxx

SERIES:
SIZE: S, M, L
WINDING CODE: see table
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)

CONNECTION:
ST = STCH M15 (std)
ORIENTATION:
R = Rear (std)
F = Front (opt), **T** = Top (opt)
IP CLASS:
1 = IP54 (std) - **2** = IP65 (opt)
FEEDBACK:
MKES1 = **Mack®** Serial Enc. 13bit DSL (std)
MKEC1 = **Mack®** Comm. Enc. 2048 P/rev (opt)
H01 = **EQI1130 Absolute Enc. Endat 2.1** (opt)
MKES3 = **Mack®** Serial Enc. 17bit DSL (opt)

SPEC
GEARBOX:
R = With (opt)
X = W/out (std)
INERTIA:
X = (std)
H = High (opt)

MACK® CABLE

MKCH 8 STCH / 00-030 Sxxx

CABLE LINE:
Preassembled
Hybrid cables
CURRENT RATING:
8 = up to 8 Arms
ASSEMBLY MOTOR SIDE:
STCH = Springtec M15 conn.
ASSEMBLY DRIVE SIDE:
00 = Flying leads (no conn.)
LENGTH: 030 = 3m, 050 = 5m, 070 = 7m, 100 = 10m

SPEC

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