



SERIES: RME12

DESCRIPTION: MECHANICAL INCREMENTAL
ENCODER

FEATURES

- 16 or 32 detents standard resolution
- with or without integrated push button
- rotational life: up to 1,000,000 revolutions
- excellent indexing feel with 0.5, 1.5, 2.0 or 2.5 N·cm switching torque (remains consistent over life)
- gold plated contacts
- robust metal housing with metal shaft
- 11.5 x 12.3 x 4.9 mm body size
- optional IP68 front panel sealing



ELECTRICAL SPECIFICATIONS

parameter	conditions/description
output	2-bit quadrature
output signals	A lead B (clockwise)
output resolution	8 or 16 ppr
output phase difference	90° at 60 rpm max.
supply voltage	42 V dc max.
switch rating	42 V dc max., 50 mA max.
insulation resistance	500 V dc (during 60 seconds, MIL-STD-202G, method 301)
max. rotational speed	60 rpm

MECHANICAL SPECIFICATIONS

parameter	conditions/description	min	nom	max	units
shaft load	minimum push-pull value (50 N·cm min. in bending)		100		N
rotational torque	with 16 detent click	1.0	1.5	2.0	N·cm
		1.7	2.5	3.3	N·cm
	with 32 detent click	0.3	0.5	0.7	N·cm
		1.4	2.0	2.6	N·cm
push switch operational force	(RMEXX-6 or RMEXX-3 models only)	2.1	3.0	3.9	N
		4.2	6.0	7.8	N
push switch life	(RMEXX-6 or RMEXX-3 models only)	200,000			cycles
rotational life	none, 0.5 or 1.5 N·cm switching torque	1,000,000			revolutions
	2.0 N·cm switching torque	500,000			revolutions
	2.5 N·cm switching torque	300,000			revolutions

ENVIRONMENTAL SPECIFICATIONS

parameter	conditions/description	min	nom	max	units
operating temperature		-40		85	°C
storage temperature		-65		125	°C
humidity				93	% RH
vibration	at 100 ~ 1000 Hz			29	G _{rms}



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PART NUMBER KEY

RME12 - X X X X X - X X X - X X

Orientation/Mounting:
V = THT vertical
H = THT horizontal
S = SMT vertical

Bushing:
T = Threaded
M7 x 0.75 x 6 mm
N = Non-threaded
ø7 x 6 mm

Push Button:
6 = 6 N
3 = 3 N
0 = without
push button

Resolution/Torque*:
A = 32 detents (16 ppr) 2.0 N·cm
B = 16 detents (8 ppr) 1.5 N·cm
C = 16 detents (8 ppr) 2.5 N·cm
D = 32 detents (8 ppr) 2.0 N·cm
E = 16 detents (16 ppr) 1.5 N·cm
F = 16 detents (16 ppr) 2.5 N·cm
G = No detents (16 ppr)
H = No detents (8 ppr)
I = 32 detents (16 ppr) 0.5 N·cm

IP Sealing:
0 = IP60
1 = IP68* shaft/front panel sealing
(non-threaded bushing gasket provides IP65)

*O-ring of IP65/IP68 shaft sealing may slightly increase switching torque

Shaft Type:
See Shaft Options

Shaft Separation:
M = Mounted
S = Separated
(snap-in shaft mechanism)

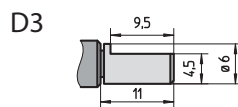
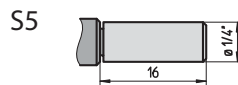
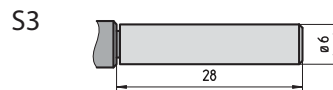
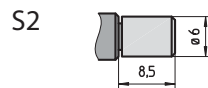
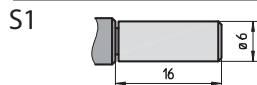
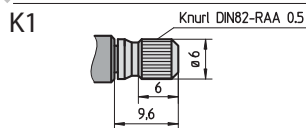
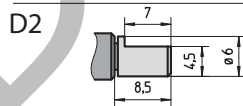
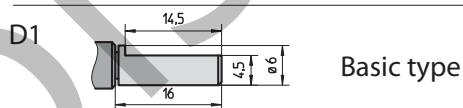
Accessory (nut, washer, o-ring) mounting:
"blank" = bulk packaging"
(encoder and accessories are bulk packaged separately)
1 = kit packaging
(accessories are pre-mounted on encoder)

**RME12-ORING-TOOL recommended for proper installation

Packaging:
T = Tray
(THT or SMT, 10 or 50 pcs. tray size, depending on shipping quantity)
TR = Tape & reel with vacuum plug
(SMT only, 200 pcs. per reel, shafts separated)

SHAFT OPTIONS

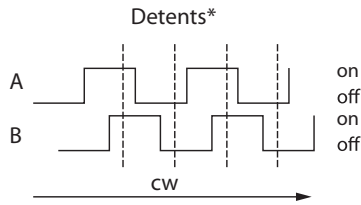
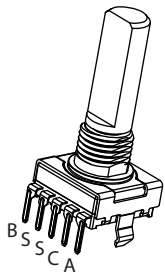
00 No shaft



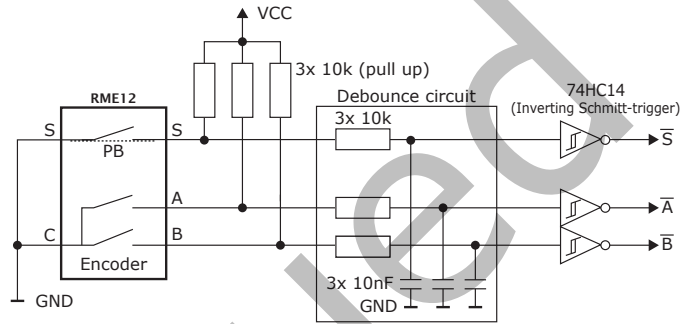
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RECOMMENDED FILTERING CIRCUIT



*Timing diagram shows 32/16 (16/8) detents/PPR resolution

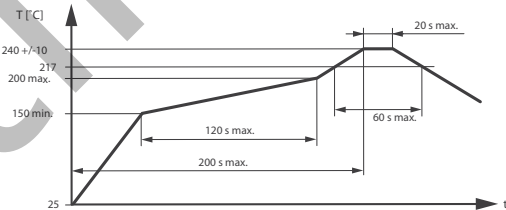


SOLDERING RECOMMENDATIONS

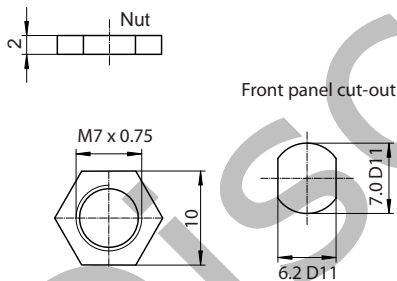
hand soldering	340°C max. during 2 seconds max.
wave soldering	280°C max. peak temperature during 5 seconds max.

Temperatures or process durations exceeding rated maximum conditions may harm encoder functions.

Reflow Profile (complies to IPC/JEDEC J-STD-020C)

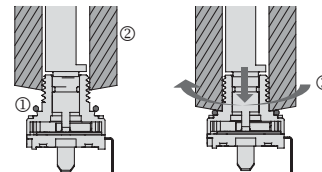


NUT AND FRONT PANEL CUT OUT



O-RING MOUNTING

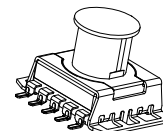
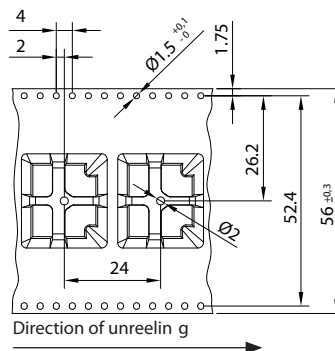
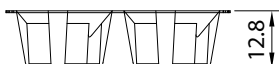
Order number: RME12-ORING-TOOL



- ① Slip the lubricated O-ring over the bushing.
- ② Slide the mounting tool over the bushing.
- ③ While pushing down the O-ring, rotate the mounting tool simultaneously.

TAPE & REEL PACKAGING

Reel size: 13"
200 pcs. per reel
Tape width: 56 mm
Tape pitch: 24 mm

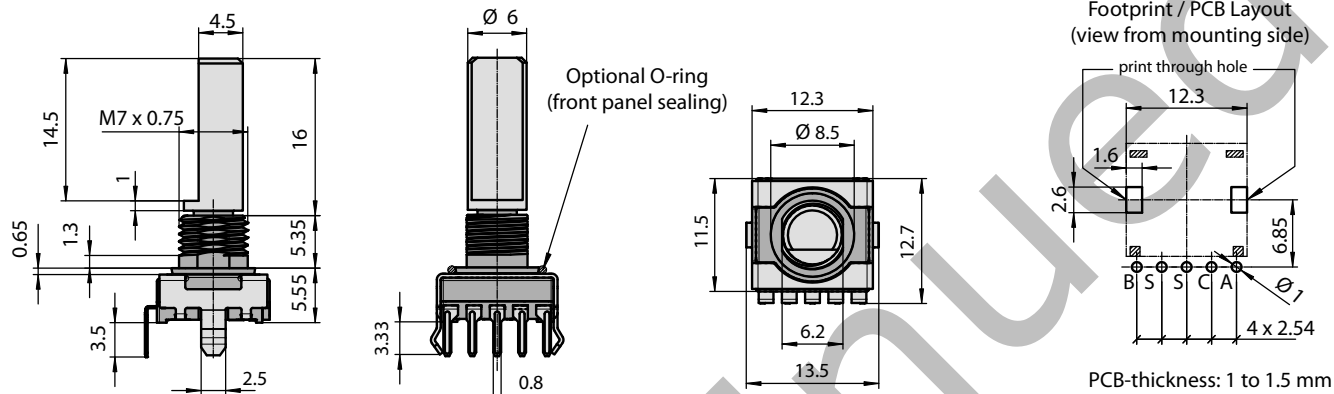


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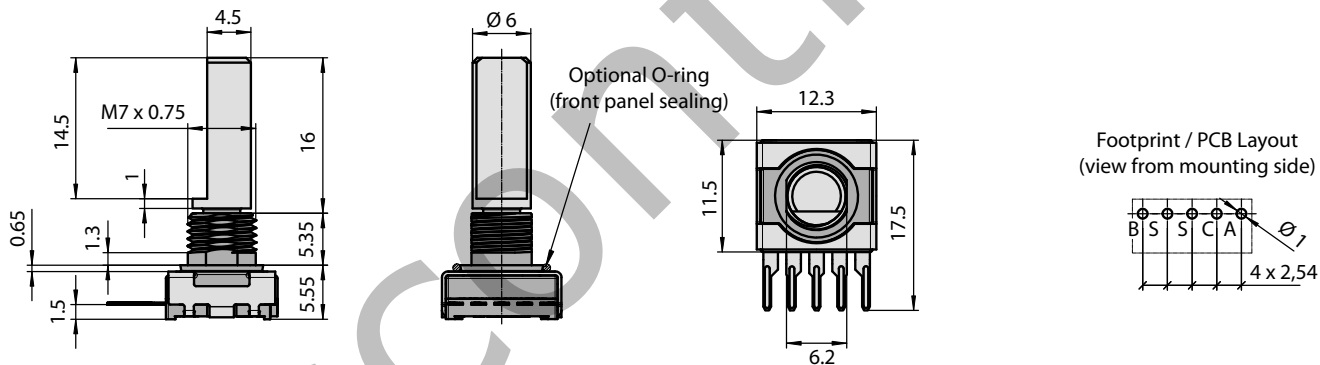
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MECHANICAL DRAWING

THT Vertical



THT Horizontal



SMT Vertical

