CE TYPE 2RMHF

Option; ribbon cable + IDC. View sec. 20, p. 10

CHARACTERISTICS

ENCODER TYPE	Hollow shaft encoder
SMD - TECHNOLOGY	Strong compact electronics
HIGH IP-RATING	Std. IP 64 (option; Ribbon cable + IDC connector = IP50)
LOW CURRENT CONSUMPTION	To be connected directly to PLC'S and counters
SHORT CIRCUIT PROTECTION	Thermal shut down at 155°C
WIDE SUPPLY RANGE	Min. 4,5V to max 30V
STRONG CONSTRUCTION	Based on 2 precision ball bearings, for industrial environments

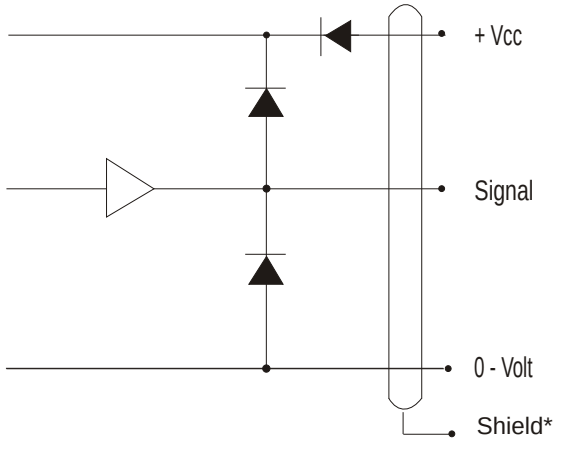
ELECTRICAL SPECIFICATIONS

	At +25°C
Output	Totempole
Output waveform	Incremental (A, B)
Zero or index pulse	(Z) one pr./rev.
Supply-voltage (Vin)	Min 4,5V to Max. 30V * Reverse polarity protection
Current (no load)	35mA
Max. load pr. output	20mA (Short circuit protected)*
V out low	Max. 500 mV @ I = 10 mA
Operating temp.	-40°C to +85° C
Storage temp.	-40° C to +85°C
Max. pulse frequency	200 kHz *
V out high	Min. (Vin -0,6) @ I = -10mA Min. (Vin -1,3) @ I = -25mA
Cable data	5($_{0,14\ mm^2}$)or 8-leads($_{0,05mm^2}$) shielded
Output signals	Standard, Inverted Differential (RS-422A compatible)
Certified acc. to	EN 50081-1 and EN 50082-2
	*= It is not recommended to combine max value for all 3 parameters

MECHANICAL SPECIFICATIONS

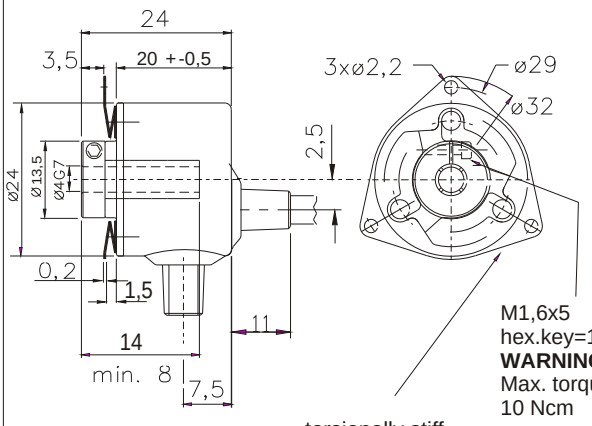
Weight	About 35 g
Materials: Housing	Electroplated steel and brass
Shaft	Stainless steel
Bearings	Lifetime lubricated ball-bearings
Fix. clamp	Brass
H.-Shaft dimensions	ø3 mm, ø4mm,ø5mm, ø6mm, ø1/4"
H.-Shaft loads	Axial max. 20 N
	Radial max. 20 N
Max. rev.	12,000 rev./min.
IP-rating	IP 64
Start torque	<0,005 Nm at 25°C
Mass moment of inertia	1,0 gcm²
Max. shock	100 G/11 ms.
Bump	10 G - 16 ms (1000 x 3axis)
Vibration	(10 - 2000 Hz)/10 G

OUTPUT CIRCUIT



*Shield connected to housing

MECHANICAL DIMENSIONS

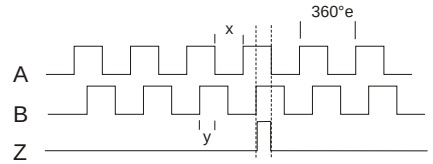


M1,6x5
hex.key=1,5
WARNING.!!
Max. torque:
10 Ncm

torsionally stiff
spring coupling
max. movement axial ±0,25
max. movement lateral ±0,05

OUTPUT WAVEFORMS

Rotation: Clockwise (cw) from shaftside



+ inverted channels

X = 180°e ± 36°e and
Y = 90°e ± 18°e

PULSES/REV.

4	36	125	256	1000	5000
10	50	128	300	1024	7500
11	60	150	360	2000	
12	75	180	400	2048	
15	90	200	500	2500	
25	100	250	600	3000	
30				3600	

CONNECTIONS

Color code	Standard
Green	Channel A
Yellow	Channel B
Grey	Channel Z
Brown	Vcc
White	0-Volt

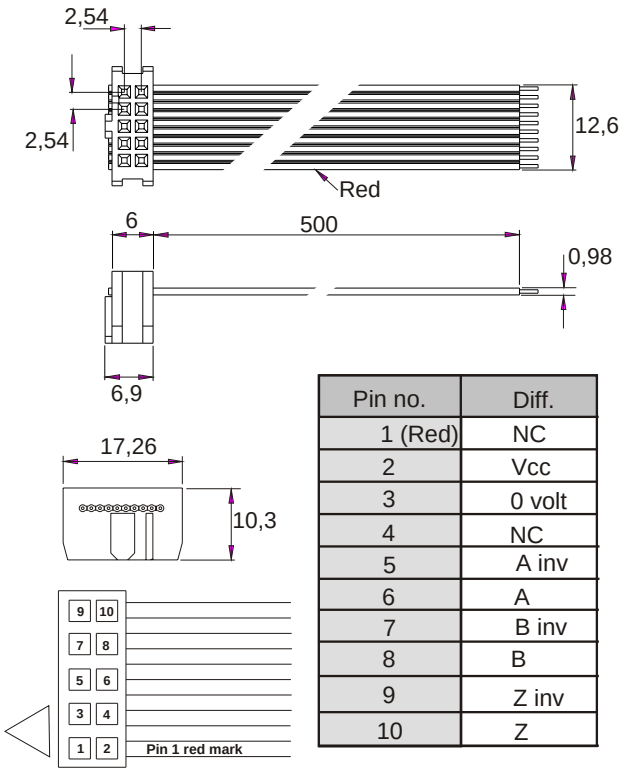
Color code	Inverted
Green	Channel A inv
Yellow	Channel B inv
Grey	Channel Z inv
Brown	Vcc
White	0-Volt

Color code	Differential
Pink	Channel A
Grey	Channel A inv
Green	Channel B
Yellow	Channel B inv
White	Channel Z
Brown	Channel Z inv
Red	Vcc
Blue	0-Volt

ORDERING CODES

	Options	Ordering code
Pulses pr. rev.:	No. of pulses	XXXX
Output signal:	Standard (normal)	N
	Inverted	I
	Differential	D
H.-Shaft dimensions:	ø3 mm	03
	ø4 mm	04
	ø5 mm	05
	ø6 mm	06
	ø1/4"	1/4
IP-rating:	IP 64	64
Length of cable:	Standard 1 meter	01
	No. of meters	XX
Cable take out:	Side	S
	Back	B
Cable type	Ribbon cable + IDC (HP-compatible)	IDC
IDC:	IDC- 0,5 meter	0,5
	IDC- 1,0 meter	1,0
	IDC- 2,0 meter	2,0

OPTION; IDC-connector with ribbon cable



Pin no.	Diff.
1 (Red)	NC
2	Vcc
3	0 volt
4	NC
5	A inv
6	A
7	B inv
8	B
9	Z inv
10	Z

2RMHF [I][D][C] [ ][ ][ ][ ] [D] [ ][ ] [5][0] [ ][ ] [S]

Ribbon Cable | Pulses | Output signal | H. - shaft | IP- rating | Length of cable | Cable take out

or → **2RMHF** [ ][ ][ ][ ] [ ] [ ][ ] [6][4] [ ][ ] [ ]

Pulses | Output signal | H.-Shaft | IP- rating | Length of cable | Cable take out

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Option; ribbon cable + IDC. View sec. 20, p. 10

CHARACTERISTICS

ENCODER TYPE	Hollow shaft encoder
SMD - TECHNOLOGY	Strong compact electronics
HIGH IP-RATING	Std. IP 64(Option; Ribbon cable + IDC connector = IP50)
LOW CURRENT CONSUMPTION	To be connected directly to PLC'S and counters
SHORT CIRCUIT PROTECTION	Thermal shut down at 155°C
WIDE SUPPLY RANGE	Min. 4,5V to max 30V
STRONG CONSTRUCTION	Based on 2 precision ball bearings, for industrial environments

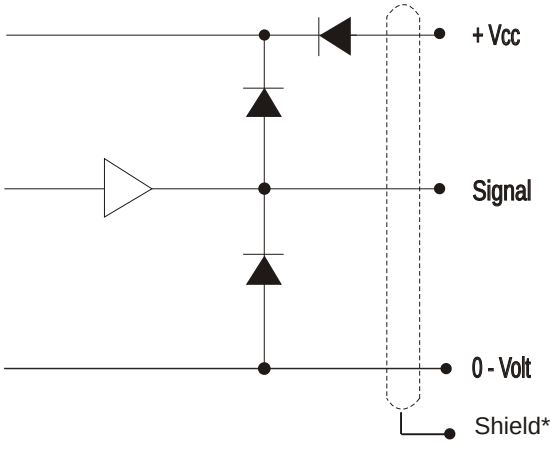
ELECTRICAL SPECIFICATIONS

	At +25°C
Output	Totempole
Output waveform	Incremental (A, B)
Zero or index pulse	(Z) one pr./rev.
Supply-voltage (Vin)	Min 4,5V to Max. 30V * Reverse polarity protection
Current (no load)	35mA
Max. load pr. output	20mA (Short circuit protected)*
V out low	Max. 500 mV @ I = 10 mA
Operating temp.	-40°C to +85° C
Storage temp.	-40° C to +85°C
Max. pulse frequency	200 kHz *
V out high	Min. (Vin -0,6) @ I = -10mA Min. (Vin -1,3) @ I = -25mA
Cable data	5(0,14 mm²)or 8-leads(0,05mm²) shielded
Output signals	Standard, Inverted Differential (RS-422A compatible)
Certified acc. to	EN 50081-1 and EN 50082-2
	*= It is not recommended to combine max value for all 3 parameters

MECHANICAL SPECIFICATIONS

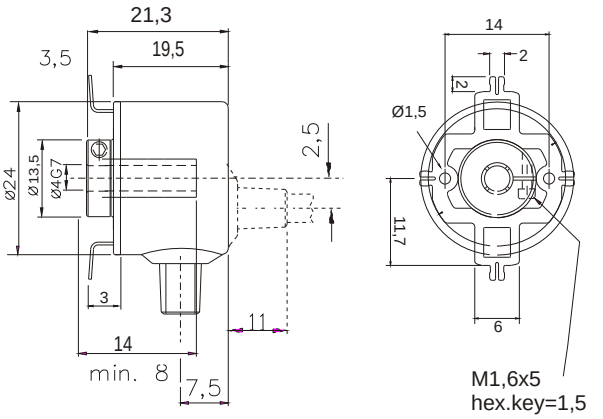
Weight	About 35 g
Materials: Housing	Electroplated steel and brass
Shaft	Stainless steel
Bearings	Lifetime lubricated ball-bearings
Fix. clamp	Brass
H.-Shaft dimensions	ø2 mm, ø3 mm, ø4 mm
H.-Shaft loads	Axial max. 20 N
	Radial max. 20 N
Max. rev.	12,000 rev./min.
IP-rating	IP 64
Start torque	<0,005 Nm at 25°C
Mass moment of inertia	1,0 gcm²
Max. shock	100 G/11 ms.
Bump	10 G - 16 ms (1000 x 3axis)
Vibration	(10 - 2000 Hz)/10 G

OUTPUT CIRCUIT



*Shield connected to housing

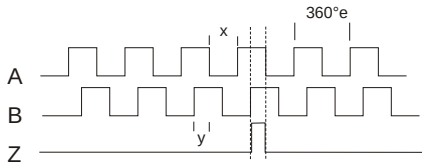
MECHANICAL DIMENSIONS



M1,6x5
hex.key=1,5
WARNING..!!
Max. torque:
10 Ncm

OUTPUT WAVEFORMS

Rotation: Clockwise (cw) from shaftside



+ inverted channels

X = 180°e ± 36°e and
Y = 90°e ± 18°e

CONNECTIONS

Color code	Standard
Green	Channel A
Yellow	Channel B
Grey	Channel Z
Brown	Vcc
White	0-Volt

Color code	Inverted
Green	Channel A inv
Yellow	Channel B inv
Grey	Channel Z inv
Brown	Vcc
White	0-Volt

Color code	Differential
Pink	Channel A
Grey	Channel A inv
Green	Channel B
Yellow	Channel B inv
White	Channel Z
Brown	Channel Z inv
Red	Vcc
Blue	0-Volt

ORDERING CODES

	Options	Ordering code
Pulses pr. rev.:	No. of pulses	XXXX
Output signal:	Standard (normal)	N
	Inverted	I
	Differential	D
H.-Shaft dimensions:	ø2 mm	02
	ø3 mm	03
	ø4 mm	04
IP-rating:	IP 64	64
Length of cable:	Standard 1 meter	01
	No. of meters	XX
Cable take out:	Side	S
	Back	B
Cable type	Ribbon cable + IDC (HP-compatible)	IDC
IDC:	IDC- 0,5 meter	0,5
	IDC- 1,0 meter	1,0
	IDC- 2,0 meter	2,0

PULSES/REV.

4	100	500
10	125	600
11	128	1000
12	150	1024
15	180	2000
25	200	2048
30	250	2500
36	256	3000
50	300	3600
60	360	5000
75	400	
90		

SCH24 [I][D][C] Ribbon Cable — [ ][ ][ ][ ] Pulses — [D] Output signal — [ ][ ] H. - shaft — [5][0] IP- rating — [ ][ ] Length of cable — [S] Cable take out

or → **SCH24** [ ][ ][ ][ ] Pulses — [ ] Output signal — [ ][ ] H.-Shaft — [6][4] IP- rating — [ ][ ] Length of cable — [ ] Cable take out

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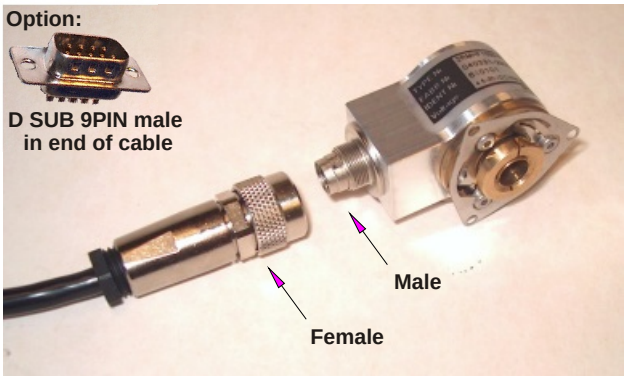
CE TYPE SCH24,4



CHARACTERISTICS

ENCODER TYPE	Hollow shaft encoder
SMD - TECHNOLOGY	Strong compact electronics
HIGH IP-RATING	Std. IP 64
LOW CURRENT CONSUMPTION	To be connected directly to PLC'S and counters
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Output	Totempole
Output waveform	Incremental (A, B)
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Max. load pr. output	20mA (Short circuit protected)*
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Storage temp.	-40° C to +85°C
Max. pulse frequency	200 kHz *
V out high	Min. (Vin -0,6) @ I = -10mA Min. (Vin -1,3) @ I = -25mA
Cable data	5($_{0,14\ mm^2}$)or 8-leads($_{0,05mm^2}$) shielded
Output signals	Standard, Inverted Differential (RS-422A compatible)
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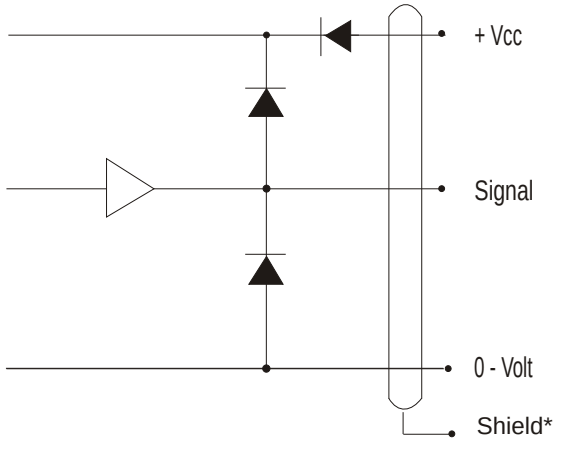
	*= It is not recommended to combine max value for all 3 parameters

MECHANICAL SPECIFICATIONS

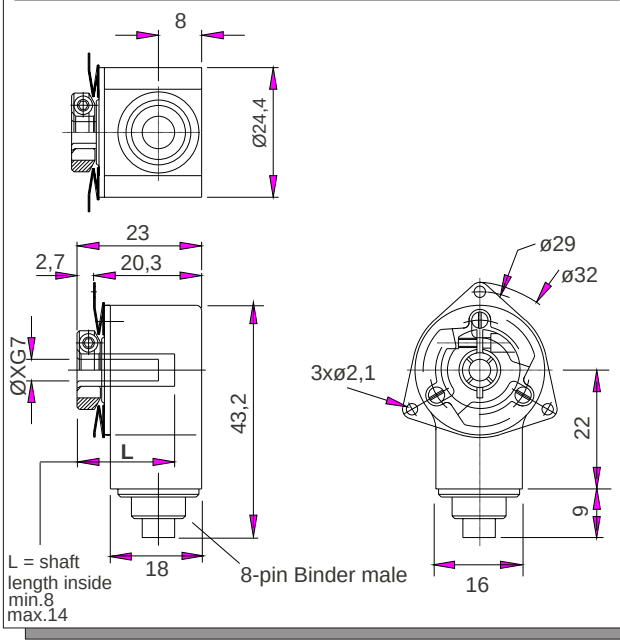
Weight	About 35 g
Materials: Housing	Electroplated steel and brass
Shaft	Stainless steel
Bearings	Lifetime lubricated ball-bearings
Fix. clamp	Brass
H.-Shaft dimensions	ø3 mm, ø4mm,ø5mm, ø6mm, ø1/4"
H.-Shaft loads	Axial max. 20 N
	Radial max. 20 N
Max. rev.	12,000 rev./min.
IP-rating	IP 64
Start torque	<0,005 Nm at 25°C
Mass moment of inertia	1,0 gcm²
Max. shock	100 G/11 ms.
Bump	10 G - 16 ms (1000 x 3axis)
Vibration	(10 - 2000 Hz)/10 G

OUTPUT CIRCUIT



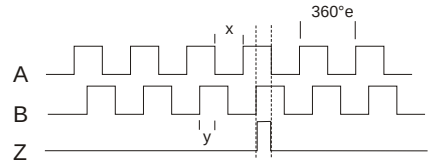
*Shield connected to housing

MECHANICAL DIMENSIONS



OUTPUT WAVEFORMS

Rotation: Clockwise (cw) from shaftside



+ inverted channels

X = 180°e ± 36°e and
Y = 90°e ± 18°e

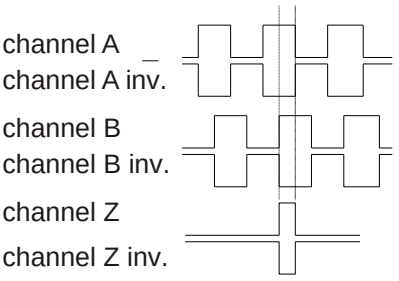
PULSES/REV.

4	36	125	256	1000	5000
10	50	128	300	1024	7500
11	60	150	360	2000	
12	75	180	400	2048	
15	90	200	500	3000	
25	100	250	600	3600	
30					

CONNECTIONS

NOTE..!!! Pin assignment valid for both Binder and D Sub Connector

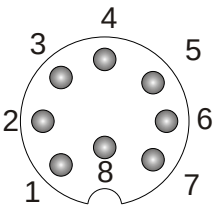
1) red	Vcc
2) blue	0-volt
3) pink	Channel A
4) grey	channel A inv.
5) green	channel B
6) yellow	channel B inv.
7) white	channel Z
8) brown	channel Z inv.



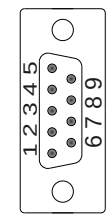
ORDERING CODES

	Options	Ordering code
Pulses pr. rev.:	No. of pulses	XXXX
Output signal:	Standard (normal)	N
	Inverted	I
	Differential	D
H.-Shaft dimensions:	ø3 mm	03
	ø4 mm	04
	ø5 mm	05
	ø6 mm	06
	ø1/4"	1/4
IP-rating:	IP 64	64
Male Connector on encoder take out:	Side	S
Length of cable on Female connector:	Standard 1 meter	01
	Or number of meters	XX
Female stand alone (no cable)	Stand alone	00
		SA
No need for Female connector	No need	NO
male D SUB on other end of cable	D SUB 9 PIN	SUB
No neede for D SUB	No need	NON

CABLE AND PIN OUT

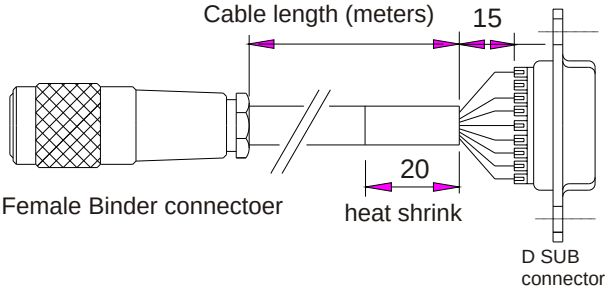


Female from front



male from front

Note: Shield connected to encoder and connector housings (NOT ON D SUB)



SCH24,4 ☐☐☐☐ ☐ ☐☐ **6 4** ☐☐ **S** ☐☐☐

Pulses | H. - shaft | Output signal | IP- rating | Length of cable on female-mating connector | Cable take out | D SUB 9 PIN

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