RM44 / 58DC – Absolute Encoder with BiSS–C interface
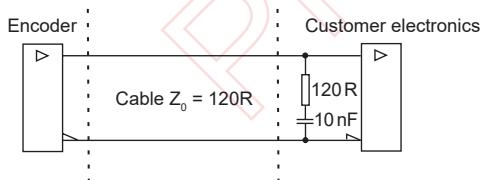

Engineering samples available.

Absolute Encoder with BiSS–C interface
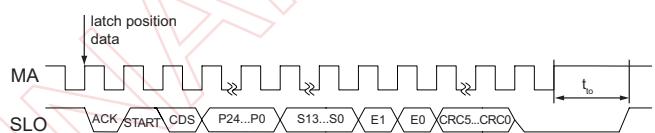
Output code	Natural binary
Power supply	V_{dd} = 5 V ±5 %
Current consumption	Max. 50 mA
Clock input	MA (RS422)
Data output	SLO (RS422)
Accuracy	Typ. ±0.5°
Hysteresis	0.18°
Resolution	320, 400, 500, 512, 800, 1,000, 1,024, 1,600, 2,000, 2,048, 4,096, 8,192 positions per revolution
Maximum speed	30,000 rpm
Operating temperature	–40 °C to +125 °C (IP64) –40 °C to +85 °C (IP68)
Max MA frequency	8 MHz

Recommended signal termination

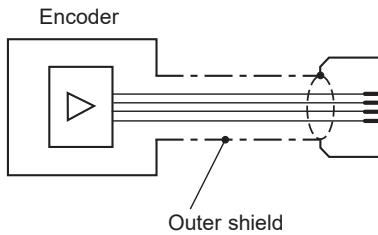For data output lines only

Timing diagram – BiSS-C

Data	Length	Description
P24 – P0	0 to 24 bit	Revolution counter value (length depends on the settings chosen)
S12 – S0	3 to 13 bit	Position inside the revolution (length depends on the resolution)
E1 – E0	2 bit	Error data
CRC5 – CRC0	5 to 6 bit	Cyclic redundancy check data; polynomial 0x43; inverted bit output

Error	E0	E1
No error	1	1
Amplitude error	0	1
Too high velocity	1	0
Undervoltage; Configuration; System error	0	0

For more information on BiSS-C protocol please visit www.biss-interface.com.

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Connections

RM44/RM58DC	
Function	**Wire colour**
Shield - see connection diagram	
V$_{dd}$	Red
GND	Blue
MA+	White
SLO+	Green
MA–	Brown
SLO–	Yellow

Encoder

Outer shield

NOTE 1: The product dimensions and installation drawing are available on the RM44/RM58 data sheet (RM44D01).

NOTE 2: The RM44DC can be used with all standard magnetic actuators.

Part numbering

RM44 DC 00 13B 10 F 2 E 10

Series
RM44 - Ø44 mm body
RM58 - Ø58 mm body

Output type
DC - BiSS, RS422, 5 V

Shaft size
00 - n/a

Resolution

Decimal		Binary	
D32 - 320		**07B** - 128	
D40 - 400	**1D0** - 1000	**08B** - 256	**11B** - 2048
D50 - 500	**1D6** - 1600	**09B** - 512	**12B** - 4096
D80 - 800	**2D0** - 2000	**10B** - 1024	**13B** - 8192

Special requirements
10 - No special requirements (standard)
1M - Cable length in meters

Environment and material
E - IP64, die-cast body (Zinc alloy), standard EMC grade (standard)
F - IP68, die-cast body (Zinc alloy), standard EMC grade

Body style and cable exit
2 - Cylindrical body, radial cable exit

Connector options
F - Flying lead (no connector)

Cable length
10 - 1.0 meter (or 10 meters if **1M** special requirement is chosen)

Document issues

Issue	Date	Page	Amendments done
3	8. 8. 2019	1	Current consumption amended

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