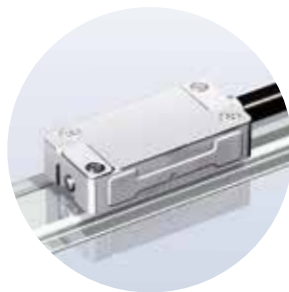


Magnescale

SPEED X PRECISION

Maximum response speed 3m/s
Maximum resolution 50nm and
 $\pm 5\mu\text{m}$ accuracy

Incremental type SmartSCALE



Separate type
simple architecture
IP65 protection against
dust and water



Space-saving small head
W33×D16×H8[mm](Actual size)



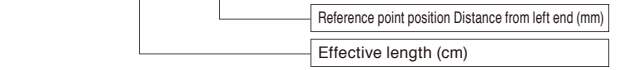
Easy to check signal
with LED display

Magnescale Co., Ltd.

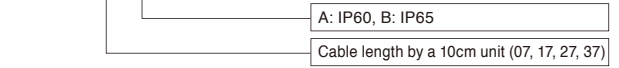
Specifications

Model name	SQ10 scale	PQ10 head	MQ10 interpolator				
		PQ11 head with interpolator					
Effective length	20 - 3,800mm						
Accuracy (at 20°C)	±5μm (when effective length is less than 1m) ±10μm (when effective length is from 1m to 3m) ±15μm (when effective length is more than 3m)						
Resolution	0.05/0.1/0.5/1μm/0.048828μm (Only Yaskawa Electric Serial interface)						
Maximum response speed	Serial interface		3m/s				
	A/B phase output	Resolution (μm)	[m/s]				
			Minimum phase difference(ns)				
			0.05	0.6	0.3	0.2	0.2
			0.1	1.2	0.6	0.4	0.3
0.5	3.0	3.0	2.5	1.9			
1.0	3.0	3.0	3.0	3.0			
Operating temperature	0 to 50°C						
Vibration resistance	196m/s ² (50Hz - 2000Hz)						
Impact resistance	980m/s ² (11ms)						
Protective design grade	IP67	IP65/IP60	IP60				
Power supply voltage range	-	DC5V±5%					
Maximum consumption current	-	1.3W					
Mass	Effective length: mm×0.22)+8g	8g (excludes cable)	120g (excludes cable)				
Output signal	Various serial interface or A/B phase output						

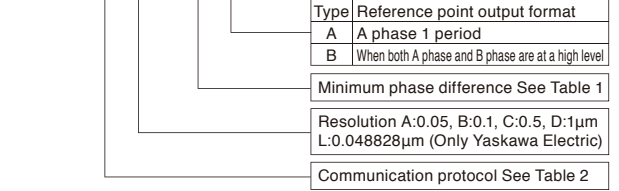
Model name : SQ10-A x x x □ □ □ □ A (Scale)



PQ10-x x ☆ A (Head)



MQ10-△ □ A ◆ ○ (Interpolator)



PQ11-x x △ □ ☆ ◆ ○ (head with interpolator)

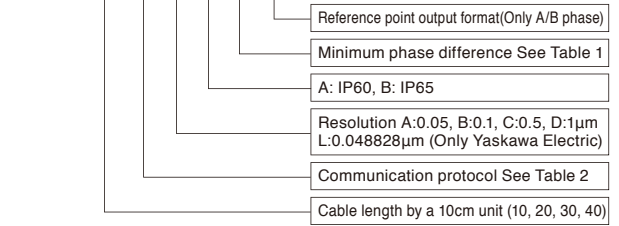


Table 1: Minimum phase difference (ns)

Model name	Phase difference
A	50
B	100
C	150
D	200

Table 2: Communication protocol

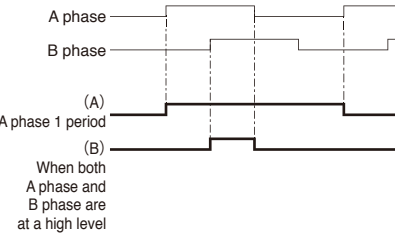
B	Mitsubishi Electric/2-wire
D	Mitsubishi Electric/4-wire
F	Yaskawa Electric/Without hall sensor
G	Yaskawa Electric/With hall sensor
H	Panasonic
P	A/B phase output
M	Magnescape protocol

○ LED display



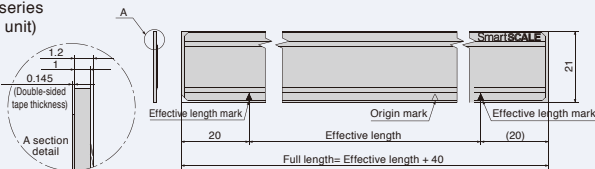
Items	color	Lighting conditions
ORIGIN	Orange	When passing reference point
ALARM	Red	When an alarm occurs
HIGH	Yellow	Excessive level
FINE	Green	Appropriate level
LOW	Orange	Shortage level

○ A/B phase output Reference point output format

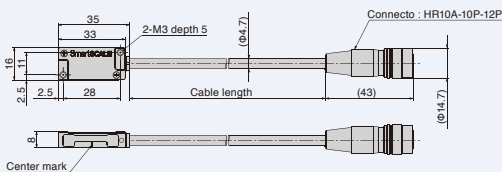


Dimensions

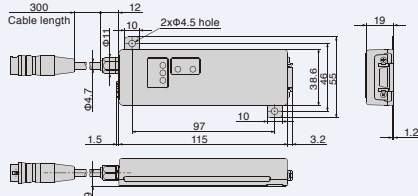
SQ10 series (Scale unit)



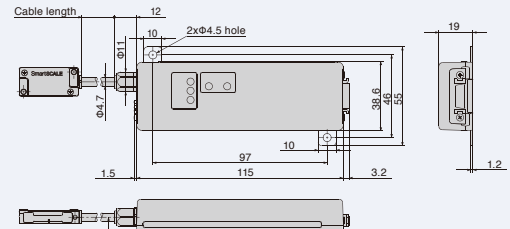
PQ10 series (Head unit)



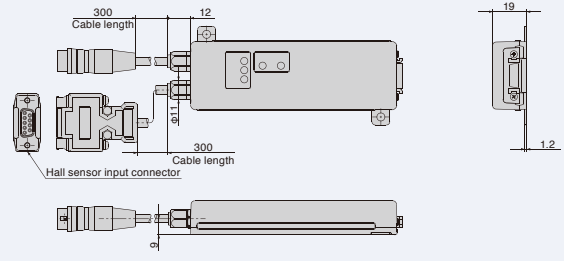
MQ10 series (Interpolator unit)



PQ11 series (Head with interpolator)



MQ10-GLA (Yaskawa Electric/With hall sensor)



⚠ To use this product safely, please read the instruction manual carefully and thoroughly prior to usage. •Magnescape reserves the right to change products and specifications without prior notice.

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<http://www.magnescape.com>

The contents of this literature are as of Mar. 2016