

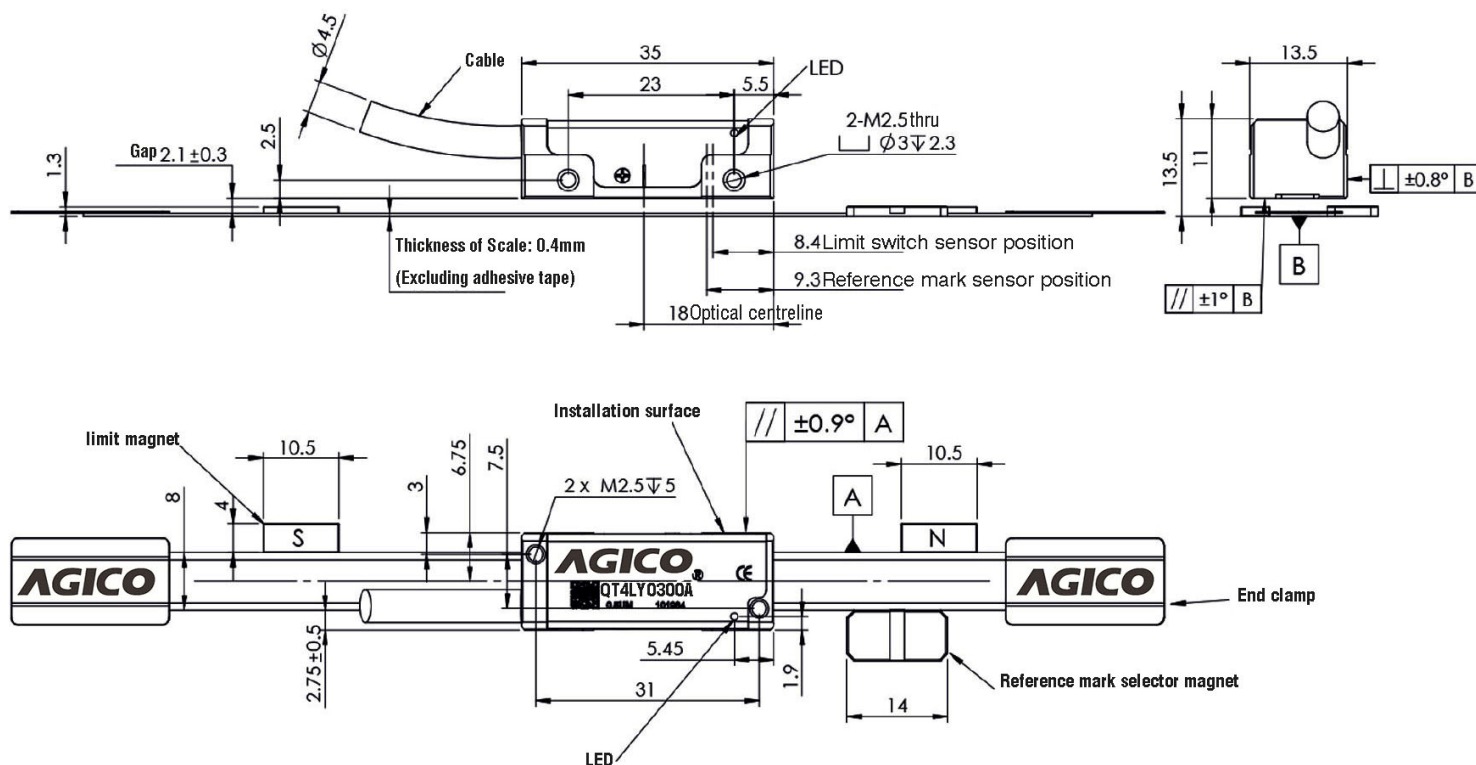
- Non- contact optical encoder
- Industry standard digital and analogue output options
- Customized resolution from 10nm to 5um
- Reference mark
- High speed operation
- Integral set-up LED



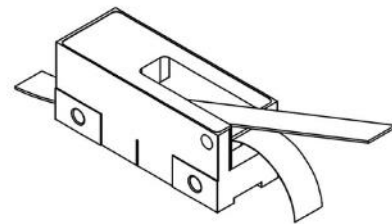
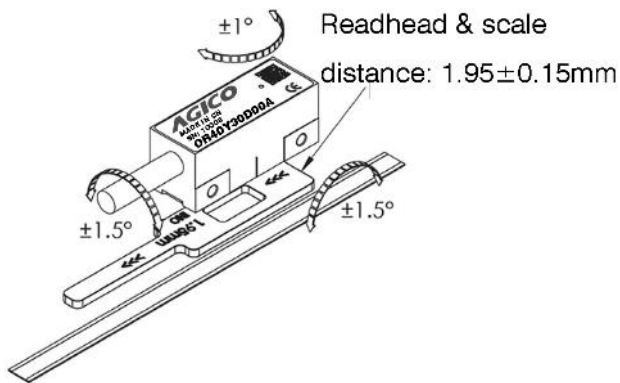
System data:

Feature	Technical Data	Additional information
Output Signals	Incremental	
Scale	OS41	
Resolution	Max.10nm	
System accuracy	± (0.001+0.006×L) mm	L in m
Repeat accuracy	±0.0001mm	
Sensor/band reading distance	2.1±0.3mm	
Power supply	5VDC±5%	
No-load Current	<70mA	
Operating Current	<190mA	
Acceleration (system)	400 m/s ²	
Typical sub-divisional error (SDE)	±50 nm	
Vibration	100 m/s ² max @55Hz to 2000Hz	Operation
Output Signals	Digital / Analogue outputs	Digital outputs: RS422, Push-pull
LED Logic	Blue: Signal strength >80% Green: Signal strength >60% Red: Signal error	Read head pass reference mark: a)LED flash once(0.3 seconds): Operative State b)LED flash twice(0.3 seconds): Fault State. The reference mark magnet needs to be adjusted, or the reading head change the position slightly.
Operating temperature	-10～+70℃	
Storage temperature	-20～+80℃	
Humidity	RH<90% (non-condensing)	
Sealing	IP40	
Housing	Alloy	
Mass	Readhead 10g. Cable 45g/m	

Dimension (Unit: mm)

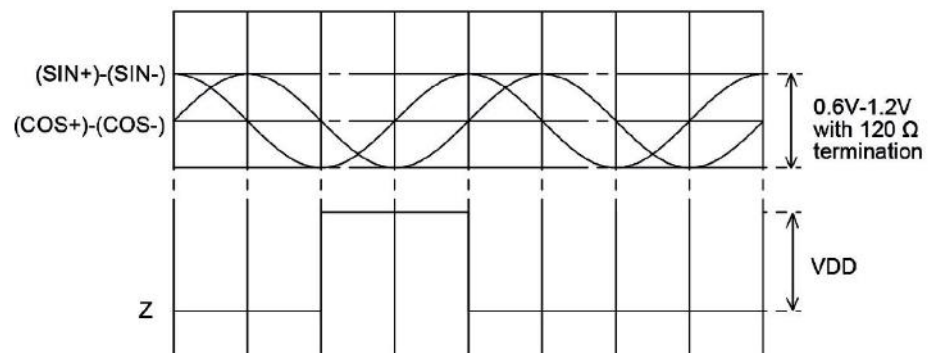
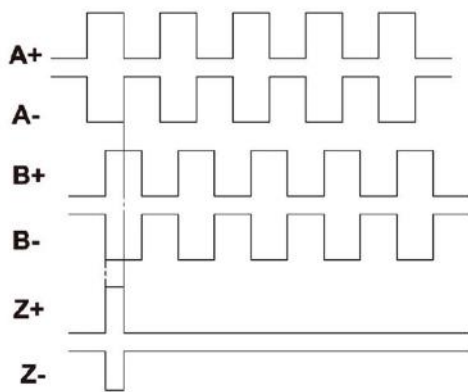


Readhead mounting and alignment

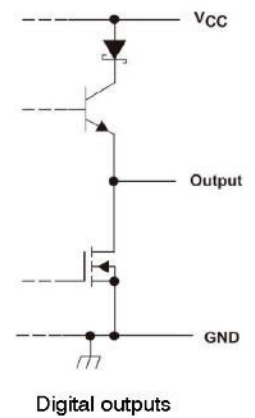
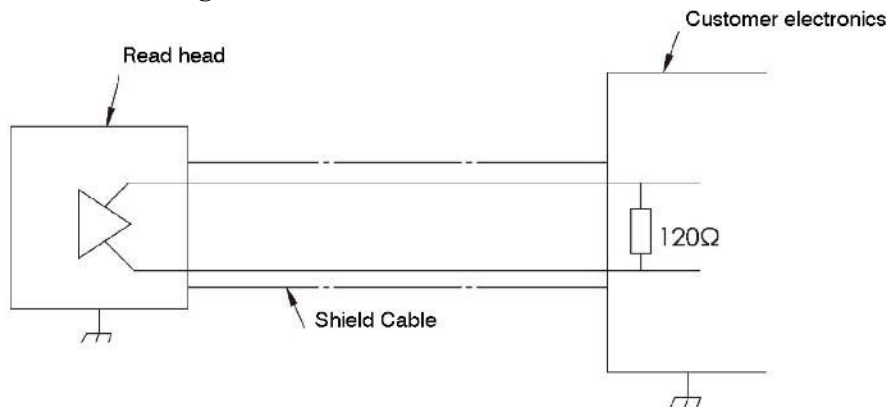


Scale applicator

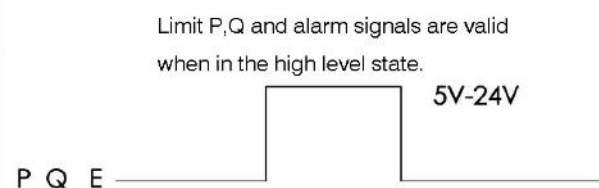
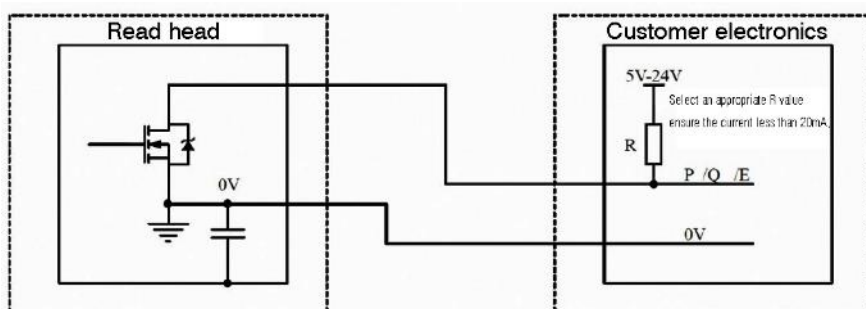
Digital / Analogue output signals



Recommended signal termination



Limit / Alarm output signals

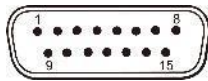
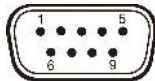


Linear scale

Feature	Technical Data	Additional information
Linear Scales	OS41	
Pitch	40um	
Form (height × width)	0.3 × 8mm	
Accuracy	±3 um/m	
Linearity accuracy	±1.5 um/m	
Maximum length	50m	
Coefficient of thermal expansion	10.1±0.2 um/m/°C	(at 20 °C)
Mass	18g/m	

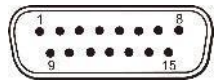
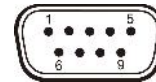
Analogue outputs

Function	Signal	Colour	9-way D-type	15-way D-type
Power	5V	Red	5	4
	0V	Black	1	12
Incremental	SIN+	White	2	9
	SIN-	Grey	6	1
	COS+	Blue	4	10
	COS-	Purple	8	2
Reference mark	Index+	Brown	3	3
	Index-	Orange	7	11
Shield	In	Silver	9	15
	Out	Screen	Case	Case



Digital output

Function	Signal	Colour	9-way D-type	15-way D-type
Power	VCC	Red	5	7
	GND	Black	1	2
Incremental	A+	White	2	14
	A-	Grey	6	6
	B+	Blue	4	13
	B-	Purple	8	5
Reference mark	Z+	Brown	3	12
	Z-	Orange	7	4
Limits	P	Yellow	-	11
	Q	Green	-	10
Alarm	E	Pale Green	-	3
Shield	Screen	Case	Case	Case



Readhead part numbers

QT4LX30D00A

Series

Pitch: 40um

Resolution:

O : 10nm (Max Speed:0.3m/s)
 I : 20nm (Max Speed:0.6m/s)
 K : 40nm (Max Speed:1.1m/s)
 H : 50nm (Max Speed:1.5m/s)
 Y : 0.1um (Max Speed:3m/s)
 W : 0.2um (Max Speed:6m/s)
 Z : 0.5um (Max Speed:15m/s)
 X : 1um (Max Speed:18m/s)
 D : 5um (Max Speed:18m/s)
 A : 1VPP **Analogue outputs**

L: Limit magnet A:Customided

D00: Open cable ends

D09: 9-way D-type

D15: 15-way D-type

Cable length:

03: 0.3m 05: 0.5m

10: 1.0m 15: 1.5m

30: 3.0m 50: 5.0m

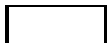
100: 10m

Customized lengths

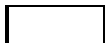
Linear scale part numbers _ OS41 series

Feature	Order data	Specifications	Additional information
Scale length (mm)	300	0.3m	
	900	0.9m	
	3000	3m	
	...	Max. 40m	
Adhesive	-	With adhesive	
	E	Without adhesive	

OS41 -



A



B

Optional parts

Tools	Part NO
Reference mark magnet	IND140716
P,Q limit magnet	LIM1050413
Scale applicator	OS40-MT06
End clamp	604TP