



S type Encoder RoHS

- Two channel quadrature outputs with optional index pulse
- Resolution 400 or 500 counts per revolution
- Single ended output signals, TTL compatible
- Single 5VDC supply
- HEDS serie encoders from Broadcom Limited

Encoder features

Parameter	S240	S340
Supply voltage [VDC]	5 ± 0.5	
Max. Supply current [mA]	40	85
Output voltage [VDC]	VOH = 2.4 min, VOL = 0.4 max	
Output channels	2 (A, B)	3 (A, B, I)
Maximum frequency [kHz]	100	

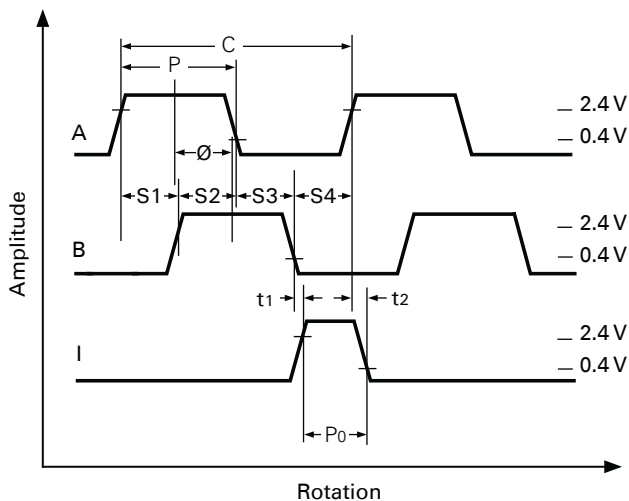
Encoder pin-outs

Pins	S240	S340
Pin 1	GND	
Pin 2	NC	Channel I
Pin 3	Channel A	
Pin 4	5 VDC	
Pin 5	Channel B	

Encoder P/N

S240: 2 channels, 400CPR
S340: 3 channels, 400CPR

Output waveforms

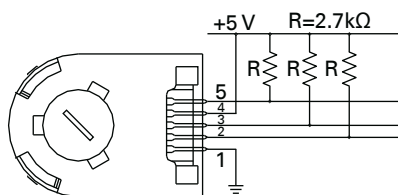


Encoding characteristics

Parameter	Symbol	S240			S340		
		Min.	Typ.*	Max.	Min.	Typ.*	Max.
Pulse width error [°e]	ΔP		7	45	5	45	
Logic width error [°e]	ΔS		5	45	5	35	
Phase error [°e]	$\Delta \emptyset$		2	20	2	15	
Position error [arcmin.]	$\Delta \Theta$		10	40	10	40	
Cycle error [°e]	ΔC		3	5.5	3	5.5	
Index pulse width [°e]	P_0				55	90	
CH.I rise after CH.A or CH.B fall [ns]	t_1				-300	100	
CH.I fall after CH.A or CH.B rise [ns]	t_2				70	150	

*Typical values specified at supply voltage = 5.0 VDC and 25°C

Electrical interface



S340 encoders require 2.7kΩ (±10%) pull-up resistors on output pins 2,3 and 5 (Channels I, A and B). These pull-up resistors should be located as close to the encoder as possible.

S240 encoders do not normally require pull-up resistors. However, 3.2kΩ pull-up resistors on output pins 3 and 5 (Channels A and B) are recommended.

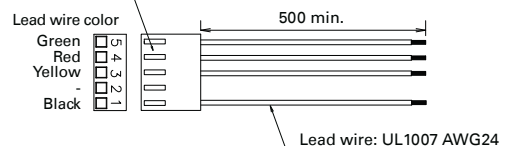
Suitable connectors

Manufacturer	Part number	
	Housing	Contact
AMP	103686-4	640442-5
Molex	2695 series	2759 series
FCI	65039-032	4825X-000

Encoder cables

S240 Encoder, Cable P/N: CS2500

Manufacturer: MOLEX
 Housing: 22-01-2055
 (locking ramp cut)



S340 Encoder, Cable P/N: CS3500

Manufacturer: MOLEX
 Housing: 22-01-2055
 (locking ramp cut)

