

35mm sq.

42mm sq.

56mm sq.

60mm sq.

86mm sq.

Encoder Specifications

Customization Service



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 | |

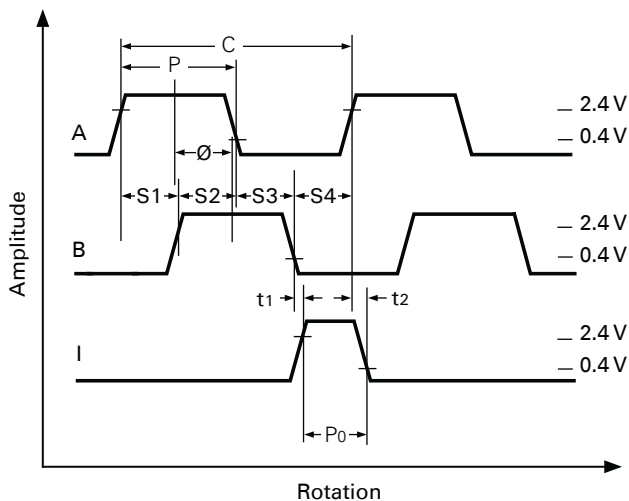
Encoder pin-outs

| 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

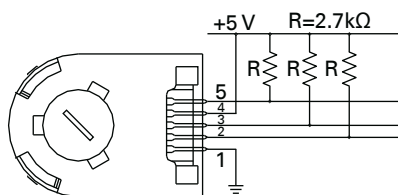


Encoding characteristics

| 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] | Δ∅ | | 2 | 20 | 2 | 15 | |
| Position error [arcmin.] | Δθ | | 10 | 40 | 10 | 40 | |
| Cycle error [°e] | ΔC | | 3 | 5.5 | 3 | 5.5 | |
| Index pulse width [°e] | P ₀ | | | | 55 | 90 | 125 |
| CH.I rise after CH.A or CH.B fall [ns] | t ₁ | | | | -300 | 100 | 250 |
| CH.I fall after CH.A or CH.B rise [ns] | t ₂ | | | | 70 | 150 | 1000 |

*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.

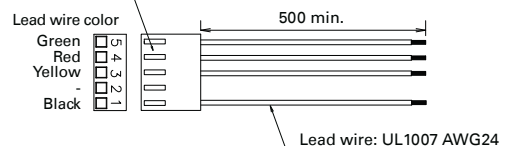
Suitable connectors

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

Encoder cables

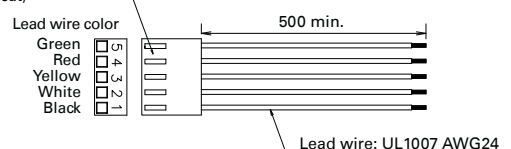
S240 Encoder, Cable P/N: CS2500

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



S340 Encoder, Cable P/N: CS3500

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



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