



## E21 Series

Compact and low profile, E21 Series Encoders provide parameters of reflective optical technology, transmissive optical technology with and without differential line drivers, and multitude of line counts.

Modular and bearing construction options. Bearing style encoders provide significant performance upgrades in demanding applications. Factory installed and tested for quick start-up.

### ■ Benefits

- Resolutions from 120 to 8192
- TTL Quadrature output
- Frequency response to 960 kHz
- Low power consumption, 5V @ 60mA max.
- Locking connector

### ■ Optional Assemblies

- Index pulse
- Differential line driver with complementary outputs
- Detachable cable with optional axial orientation
- Through hole cover

### ■ Characteristics

| Encoder Data              | Units            | Part No.                        |  |                     |
|---------------------------|------------------|---------------------------------|--|---------------------|
|                           |                  | E21C                            | E21D   |                     |
| Available Resolutions     |                  | 120,125,128, 250, 256, 300, 360 | 500, 512, 1000, 1024, 1600, 2000, 2048, 3200, 4000, 4096, 6400, 8000, 8192 |                     |
| Output                    |                  | 2-Channel Quadrature            | 2-Channel Quadrature with Index  |                     |
| Output Interface          |                  | TTL Compatible                  | TTL Compatible   |                     |
| Supply Voltage            | V <sub>CC</sub>  | VDC                             | 4.5 to 5.5   |                     |
| Supply Current            | I <sub>CC</sub>  | mA                              | 20 max.  |                     |
| High Level Output Voltage | V <sub>OH</sub>  | V                               | 2.4 min.   |                     |
| High Level Output Voltage | V <sub>OL</sub>  | V                               | 0.4 max.   |                     |
| Max. Operating Frequency  | f <sub>MAX</sub> | kHz                             | 40 (120-360 CPR)   | 55 (500-512 CPR)    |
|                           |                  |                                 |  | 110 (1000-1024 CPR) |
|                           |                  |                                 |  | 220 (2000-2048 CPR) |
|                           |                  |                                 |  | 240 (1600 CPR)      |
|                           |                  |                                 |  | 480 (3200-4096 CPR) |
|                           |                  |                                 |  | 960 (6400-8192 CPR) |
| Operating Temperature     | Θ <sub>MAX</sub> | °C                              | -20 to +85   |                     |
| Encoder Weight (Mass)     | W <sub>E</sub>   | oz                              | 0.11   |                     |
|                           |                  | g                               | 3.1  |                     |

### ■ Connection Chart

| PIN | E21C <sup>1</sup> | E21D <sup>1</sup> | Optional Cable |
|-----|-------------------|-------------------|----------------|
| 1   | Channel A         |                   | Blue/White     |
| 2   | Vcc               |                   | White          |
| 3   | Encoder Ground    |                   | Black          |
| 4   | Channel A         |                   | Blue           |
| 5   | Channel B         |                   | Violet/White   |
| 6   | Channel B         |                   | Violet         |
| 7   | —                 | Index I           | Green/White    |
| 8   | —                 | Index I           | Green          |

<sup>1</sup>Optional differential LD connections shown in gray.

### ■ Optional Cables

| Cable for Encoder | Part No. | Description                             |
|-------------------|----------|---|
| E21C              | 84-90-3  | 2-Channel, Radial, Differential Outputs |
| E21D              | 84-90-1  | 3-Channel, Radial, Differential Outputs |

### Dimensional Drawings: E21C • E21D

