



# Stepping System Accessories

## SureStep® Stepping System Encoders

### Replacement Encoders

The [STP-MTRA-ENC1](#) is a replacement for the encoder that comes standard with the STP-MTRD-17038E, STP-MTRD-23042E, and STP-MTRD-23065E integrated motor/drives. Note that the encoder included with (E) model advanced integrated motor/drives is internal and cannot be replaced.

The [AMT112Q-V](#) is a replacement for the encoder that comes standard with the STP-MTR(x)-xxxxE stand alone step motors.

Installation tool and mounting hardware is included with all replacement encoders. For more information and details on how to wire the replacement encoders, please see the SureStep User Manual.

### Optional Encoders

Optional encoders can be purchased separately for standard integrated motor/drives and standalone dual-shaft motors in all NEMA 14, 17, and 23 sizes, and also for STP-MTRAC-34xxxD motors (currently not available for STP-MTRx-34xxxD motors). All (D) model (dual-shaft) step motors come with pre-drilled holes in the rear end cap for easy encoder mounting. Pre-installed encoders on standalone dual-shaft motors and standard integrated motor/drives can be retrofitted with an appropriate optional encoder if desired. Please see the chart on the following page for encoder compatibility.

#### Features:

- Fixed resolutions include 400ppr or 1000ppr
- Configurable models have up to 4096ppr (default = 400ppr)
- Choose line driver or push-pull (totem) output signals



**STP-MTRA-ENC2**



**AMT112Q-V**



**STP-MTRA-ENC11**

| Sure Step Series Specifications – Encoders |         |                                                                                                                                                                                                                                 |                     |
|--------------------------------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| Part Number                                | Price   | Description                                                                                                                                                                                                                     | Drawing             |
| <a href="#">STP-MTRA-ENC1</a>              | \$91.00 | SureStep incremental (quadrature) modular encoder, 5VDC, line driver (differential) output, 1000 ppr. For use with SureStep stepper motors with 5mm rear shaft. Installation tool and mounting hardware included.               | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC2</a>              | \$79.00 | SureStep incremental (quadrature) modular encoder, 5VDC, Push-pull (totem) output, 1000 ppr. For use with SureStep stepper motors with 5mm rear shaft. Installation tool and mounting hardware included.                        | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC3</a>              | \$89.00 | SureStep incremental (quadrature) modular encoder, 5VDC, line driver (differential) output, 400 ppr. For use with SureStep stepper motors with 5mm rear shaft. Installation tool and mounting hardware included.                | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC4</a>              | \$76.00 | SureStep incremental (quadrature) modular encoder, 5VDC, Push-pull (totem) output, 400 ppr. For use with SureStep stepper motors with 5mm rear shaft. Installation tool and mounting hardware included.                         | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC5</a>              | \$91.00 | SureStep incremental (quadrature) modular encoder, 5VDC, line driver (differential) output, 1000 ppr. For use with SureStep stepper motors with 1/4 inch rear shaft. Installation tool and mounting hardware included.          | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC6</a>              | \$79.00 | SureStep incremental (quadrature) modular encoder, 5VDC, Push-pull (totem) output, 1000 ppr. For use with SureStep stepper motors with 1/4 inch rear shaft. Installation tool and mounting hardware included.                   | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC7</a>              | \$89.00 | SureStep incremental (quadrature) modular encoder, 5VDC, line driver (differential) output, 400 ppr. For use with SureStep stepper motors with 1/4 inch rear shaft. Installation tool and mounting hardware included.           | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC8</a>              | \$76.00 | SureStep incremental (quadrature) modular encoder, 5VDC, Push-pull (totem) output, 400 ppr. For use with SureStep stepper motors with 1/4 inch rear shaft. Installation tool and mounting hardware included.                    | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC11</a>             | \$72.00 | SureStep incremental (quadrature) modular encoder, 5 VDC, line driver (differential) output, 1000 ppr. For use with SureStep stepper motors with 3/8in rear shaft. Installation hardware included. Requires STP-CBL-EAxx cable. | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC12</a>             | \$60.00 | SureStep incremental (quadrature) modular encoder, 5 VDC, push-pull (totem) output, 1000 ppr. For use with SureStep stepper motors with 3/8in rear shaft. Installation hardware included. Requires STP-CBL-EDxx cable.          | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC13</a>             | \$61.00 | SureStep incremental (quadrature) modular encoder, 5 VDC, line driver (differential) output, 400 ppr. For use with SureStep stepper motors with 3/8in rear shaft. Installation hardware included. Requires STP-CBL-EAxx cable.  | <a href="#">PDF</a> |
| <a href="#">STP-MTRA-ENC14</a>             | \$52.00 | SureStep incremental (quadrature) modular encoder, 5 VDC, push-pull (totem) output, 400 ppr. For use with SureStep stepper motors with 3/8in rear shaft. Installation hardware included. Requires STP-CBL-EDxx cable.           | <a href="#">PDF</a> |



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| Sure Step Series Encoder Compatibility |      |               |                   |               |                                         |                                                                                                      |
|----------------------------------------|------|---------------|-------------------|---------------|-----------------------------------------|------------------------------------------------------------------------------------------------------|
| Part Number                            | PPR  | Bore Diameter | Output Type       | Encoder Cable | PLC Compatibility                       | Motor Compatibility                                                                                  |
| <a href="#"><u>STP-MTRA-ENC1</u></a>   | 1000 | 5mm           | Line Driver       | STP-CBL-EAxx  | P2-HSI, P3-HSI, BRX*, CLICK C0-1xDxE-D* | STP-MTRx-14xxxD<br>STP-MTRx-14xxxE<br>STP-MTRx-17xxxD<br>STP-MTRx-17xxxE<br>Standard STP-MTRD-xxxxxE |
| <a href="#"><u>STP-MTRA-ENC2</u></a>   |      |               | Push-pull (totem) | STP-CBL-EDxx  | BRX*, CLICK C0-1xDxE-D*                 |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC3</u></a>   | 400  |               | Line Driver       | STP-CBL-EAxx  | P2-HSI, P3-HSI, BRX*, CLICK C0-1xDxE-D* |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC4</u></a>   |      |               | Push-pull (totem) | STP-CBL-EDxx  | BRX*, CLICK C0-1xDxE-D*                 |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC5</u></a>   | 1000 | 0.25 inch     | Line Driver       | STP-CBL-EAxx  | P2-HSI, P3-HSI, BRX*, CLICK C0-1xDxE-D* | STP-MTRx-23xxxD<br>STP-MTRx-23xxxE<br>STP-MTRAC-23xxxD                                               |
| <a href="#"><u>STP-MTRA-ENC6</u></a>   |      |               | Push-pull (totem) | STP-CBL-EDxx  | BRX*, CLICK C0-1xDxE-D*                 |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC7</u></a>   | 400  |               | Line Driver       | STP-CBL-EAxx  | P2-HSI, P3-HSI, BRX*, CLICK C0-1xDxE-D* |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC8</u></a>   |      |               | Push-pull (totem) | STP-CBL-EDxx  | BRX*, CLICK C0-1xDxE-D*                 |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC11</u></a>  | 1000 | 0.375 inch    | Line Driver       | STP-CBL-EAxx  | P2-HSI, P3-HSI, BRX*, CLICK C0-1xDxE-D* | STP-MTRAC-34xxxD                                                                                     |
| <a href="#"><u>STP-MTRA-ENC12</u></a>  |      |               | Push-pull (totem) | STP-CBL-EDxx  | BRX*, CLICK C0-1xDxE-D*                 |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC13</u></a>  | 400  |               | Line Driver       | STP-CBL-EAxx  | P2-HSI, P3-HSI, BRX*, CLICK C0-1xDxE-D* |                                                                                                      |
| <a href="#"><u>STP-MTRA-ENC14</u></a>  |      |               | Push-pull (totem) | STP-CBL-EDxx  | BRX*, CLICK C0-1xDxE-D*                 |                                                                                                      |

\* Requires [FC-ISO-C](#)

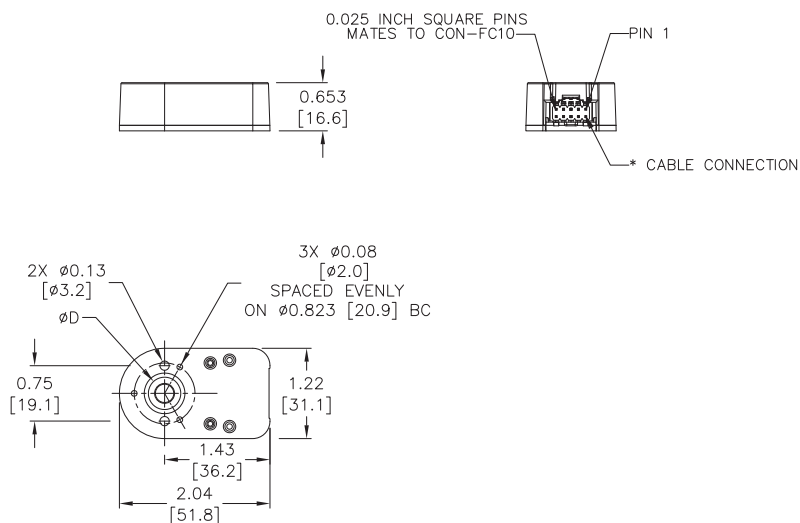


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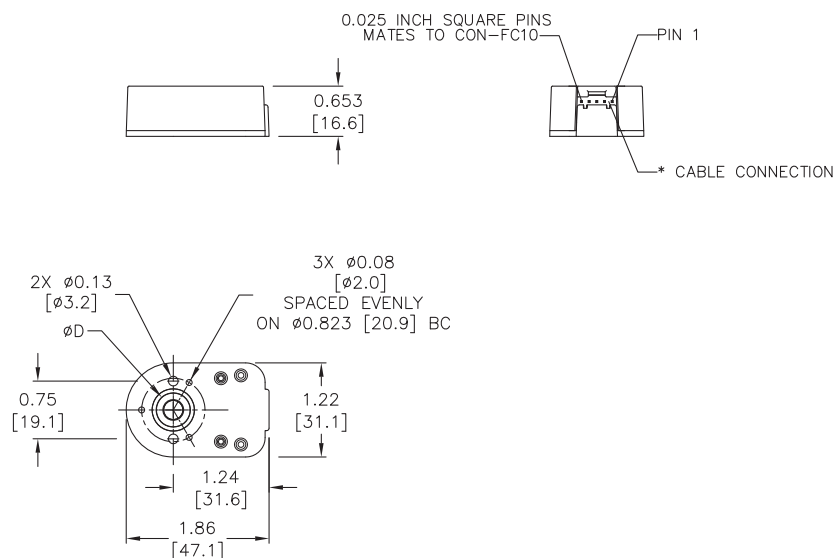
Dimensions = in [mm]

### STP-MTRA-ENC1, 3, 5, 7



| Bolt Hole Circles for Mounting                          |                                                      |
|---------------------------------------------------------|------------------------------------------------------|
| Encoder                                                 | Holes                                                |
| ENC1, ENC2,<br>ENC3, ENC4,<br>ENC5, ENC6,<br>ENC7, ENC8 | 2 holes @ 19.05mm (.75")<br>3 holes @ 20.9mm (.823") |

### STP-MTRA-ENC2, 4, 6, 8



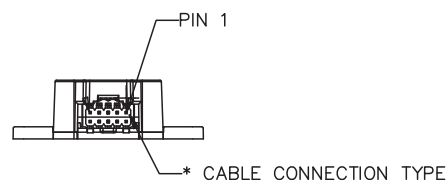
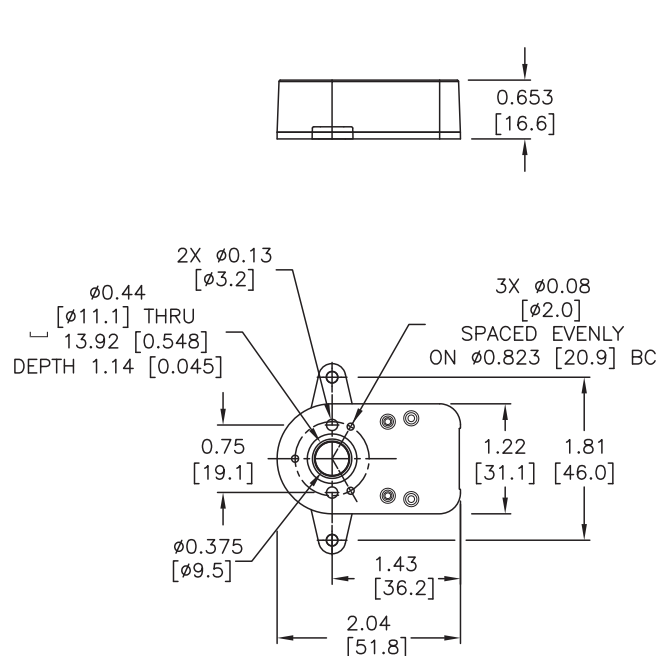


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**Dimensions = in [mm]**

### STP-MTRA-ENC11, 13



### Bolt Hole Circles for Mounting

| Encoder                    | Holes                                                                              |
|----------------------------|------------------------------------------------------------------------------------|
| ENC11, ENC12, ENC13, ENC14 | 2 holes @ 19.05mm (.75")<br>3 holes @ 20.9mm (.823")<br>2 holes @ 46.02mm (1.812") |

### STP-MTRA-ENC12, 14

