



X-FWR-E Series Datasheet



- Interchangeable filter holders for 25 mm optics (10 positions) or 32 mm optics (7 positions)
- Smooth, high speed filter changes; adjacent filter change time of 57 ms (10 position wheel)
- Optional IO; 1 digital input, 2 digital outputs
- Mounting provided for optical cage systems and C-mount components
- Built-in controller; daisy-chains with other Zaber products



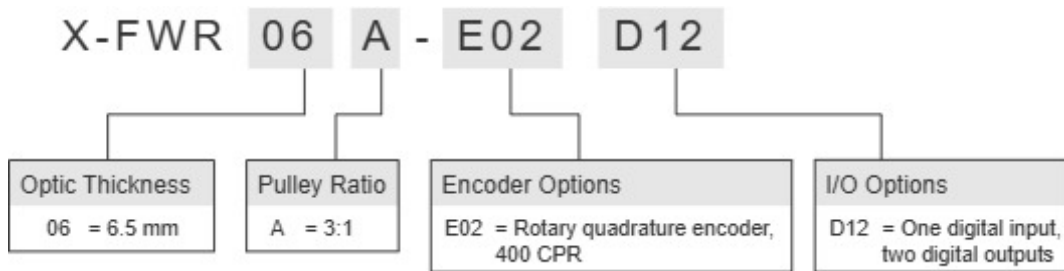
X-FWR-E Series Overview

Zaber's X-FWR-E Series devices are computer-controlled, motorized filter wheels with high speed filter change capabilities, a low profile, and interchangeable filter holders. Each filter wheel is sold with one included filter holder (FH0625 for 10 x 25 mm filter positions or FH0632 for 7 x 32 mm filter positions). The X-FWR-E filter wheels are stand-alone units requiring only a standard 48 V power supply. The built-in motor encoder allows closed-loop operation and slip/stall recovery features. An indexed knob provides convenient manual control for versatile operation even without a computer.

These devices connect to the RS-232 port or USB port of any computer, and they can be daisy-chained with any other Zaber products. The daisy-chain also shares power, making it possible for multiple X-Series products to share a single power supply. Convenient locking, 4-pin, M8 connectors on the unit allow for secure connection between units. Like all of Zaber's products, the X-FWR Series is designed to be 'plug and play' and very easy to set up and operate.

For more information visit: <https://www.zaber.com/products/optical-mounts/X-FWR-E>

X-FWR-E Series Part Numbering & Options



X-FWR-E Series Drawings

- [X-FWR-E.png \(Drawing for the X-FWR-E\)](#)



X-FWR-E Series Specifications

| | |
|--|--|
| Microstep Size (Default Resolution) | 0.010714285° (186.996 μrad) |
| Built-in Controller | Yes |
| Range | 360° |
| Accuracy (unidirectional) | 0.4° (6.980000 mrad) |
| Repeatability | < 0.1° (< 1.745 mrad) |
| Backlash | < 0.19° (< 3.316 mrad) |
| Minimum Speed | 0.006542°/s (114.178 μrad/s) |
| Speed Resolution | 0.006542°/s (114.178 μrad/s) |
| Encoder Resolution | 400 CPR (1600 states/rev) |
| Encoder Type | Rotary quadrature encoder |
| Communication Interface | RS-232 |
| Communication Protocol | Zaber ASCII (Default), Zaber Binary |
| Data Cable Connection | Locking 4-pin M8 |
| Compatible Optic Thickness | 6.5 mm (0.3") |
| Power Supply | 24-48 VDC |
| Power Plug | 2-pin Screw Terminal |
| Maximum Current Draw | 650 mA |
| Angular Motion Per Motor Rev | 119.999992° |
| Motor Steps Per Rev | 200 |
| Motor Type | Stepper (2 phase) |
| Motor Rated Current | 2100 mA/phase |
| Inductance | 3.2 mH/phase |
| Default Resolution | 1/56 of a step |
| Motor Frame Size | NEMA 23 |
| Mechanical Drive System | Synchronous belt |
| Limit or Home Sensing | Magnetic home sensor |
| Manual Control | Yes |
| Mounting Interface | M6 threaded hole for optic post, M3 holes for AP134 post mount adaptor |
| Operating Temperature Range | 0-50 °C |
| RoHS Compliant | Yes |

| | |
|--|------------------------------------|
| Microstep Size (Default Resolution) | 0.010714285° (186.996 μrad) |
| CE Compliant | Yes |
| Vacuum Compatible | No |

| Part Number | Clear Aperture | Compatible Optic Diameter | Number of Optics | Adjacent Optic Change Time |
|------------------------|-----------------------|----------------------------------|-------------------------|-----------------------------------|
| X-FWR06A-E02-FH0625 | 23.5 mm (0.925") | 25 mm, 1 " | 10 | 57 ms |
| X-FWR06A-E02-FH0632 | 30 mm (1.181") | 31-32 mm | 7 | 67 ms |
| X-FWR06A-E02D12-FH0625 | 23.5 mm (0.925") | 25 mm, 1 " | 10 | 57 ms |
| 5 | | | | |
| X-FWR06A-E02D12-FH0632 | 30 mm (1.181") | 31-32 mm | 7 | 67 ms |
| 2 | | | | |

| Part Number | Digital Input | Digital Output | Weight |
|------------------------|----------------------|-----------------------|---------------------|
| X-FWR06A-E02-FH0625 | 0 | 0 | 1.508 kg (3.325 lb) |
| X-FWR06A-E02-FH0632 | 0 | 0 | 1.503 kg (3.314 lb) |
| X-FWR06A-E02D12-FH0625 | 1 | 2 | 1.588 kg (3.501 lb) |
| X-FWR06A-E02D12-FH0632 | 1 | 2 | 1.583 kg (3.490 lb) |