Zaber Technologies Inc.
#2 - 605 West Kent Ave.
Vancouver, BC

1-604-569-3780 *Direct*
1-888-276-8033 *Toll Free*
1-604-648-8033 *Fax*

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

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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 06 A - E02 _ -FH0625

Optic Thickness
06 — 6.5 mm

Pulley Ratio
A — 3:1

Encoder Options
E02 — Motor Encoder, 400 CPR

I/O Options
None — No I/O's
D12 — One digital input, two digital outputs

Filter Holder
-FH0625 — 10 Position Filter Holder
-FH0632 — 7 Position Filter Holder

X-FWR-E Series Drawings

- X-FWR-E (Drawing for the X-FWR-E)
- View all drawings and documents at zaber.com

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X-FWR-E Series Specifications

Overview

Specification	Value
Built-in Controller	Yes
Range	+/-360 °
Manual Control	Yes

Positioning Performance

Specification	Value
Accuracy (unidirectional)	0.4 ° (6.98 mrad)
Repeatability	<0.1 ° (<1.745 mrad)
Backlash	<0.19 ° (<3.316 mrad)
Microstep Size (Default Resolution)	0.010714285 ° (186.996 µrad)
Default Resolution	1/56 of a step

Speed

Specification	Value
Minimum Speed	0.006542 °/s (114.178 µrad/s)
Speed Resolution	0.006542 °/s (114.178 µrad/s)

Encoder & Sensing

Specification	Value
Encoder Type	Rotary quadrature encoder (incremental)
Encoder Resolution	400 CPR (16 states/rev)

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Limit or Home Sensing	Magnetic home sensor

Motor

Specification	Value
Angular Motion Per Motor Rev	119.999992 °
Motor Steps Per Rev	200
Motor Type	Stepper (2 phase)
Motor Rated Current	2100 mA/phase
Motor Winding Inductance	3.2 mH/phase
Motor Frame Size	NEMA 23

Optics & Illumination

Specification	Value
Compatible Optic Thickness	6.5 mm (0.3 ")

Power and Communication

Specification	Value
Communication Interface	RS-232
Communication Protocol	Zaber ASCII (Default), Zaber Binary
Data Cable Connection	Locking 4-pin M8
Power Supply	24-48 VDC
Power Plug	2-pin Screw Terminal
Maximum Current Draw	650 mA

Mechanical

Specification	Value
Mechanical Drive System	Synchronous belt
Mounting Interface	M6 threaded hole for optic post, M3 holes for AP134 post mount adaptor

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Environmental & Compliance

Specification	Value
Operating Temperature Range	0-50 °C
CE Compliant	Yes
Vacuum Compatible	No

Part Number	Weight	Compatible Optic Diameter	Number of Optics	Adjacent Optic Change Time
X-FWR06A-E02-FH0625	1.42 kg (3.131 lb)	25 mm, 1 "	10	57 ms
X-FWR06A-E02-FH0632	1.42 kg (3.131 lb)	31-32 mm	7	67 ms
X-FWR06A-E02D12-FH0625	1.5 kg (3.307 lb)	25 mm, 1 "	10	57 ms
X-FWR06A-E02D12-FH0632	1.5 kg (3.307 lb)	31-32 mm	7	67 ms

Part Number	Digital Input	Digital Output	Clear Aperture
X-FWR06A-E02-FH0625	0	0	23.5 mm (0.925 ")
X-FWR06A-E02-FH0632	0	0	30 mm (1.181 ")
X-FWR06A-E02D12-FH0625	1	2	23.5 mm (0.925 ")
X-FWR06A-E02D12-FH0632	1	2	30 mm (1.181 ")

Contact

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