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THORLABS

SMA3QAM - December 21, 2016

Item # SM3QAM was discontinued on December 21, 2016. For informational purposes, this is a copy of the website content at that time and is valid only for the stated product.

QUICK-RELEASE LENS TUBE ADAPTERS

- ▶ 1/12 Turn to Connect and Disconnect Adapters
- ▶ SM05-, SM1-, SM2, and SM3-Threaded Versions Available
- ▶ Locking Setscrew

See *Application Notes*
Tab Below for Details



[Hide Overview](#)

OVERVIEW

Features

- Quick Connect/Disconnect Design: Less than 1/12 of a Turn
- Lockable via a Brass Setscrew
- Easily Exchange SM-Threaded Components within a System
- Knurled Edge on Female Component for Increased Grip
- Complete Set, Male Half, or Female Half Available in Each Size

Quick-release adapters allow the user to quickly interchange items within a setup without disassembly. Separate male and female components are available for attaching multiple items to a single lens tube.

These quick-release adapters provide a means to quickly connect and disconnect two similarly SM-threaded components such as lens tubes, mounted optics, detectors, and cameras (as seen in the photo below and the animation to the right). Please see the *Application Notes* tab for more information. Quick-release adapters are available in SM05 (0.535"-40), SM1 (1.035"-40), SM2 (2.035"-40), and SM3 (3.035"-40) threading options. Each quick-release adapter set is composed of one female and one male component. The female adapter component has external SM threads and the male adapter component has internal SM threading of the same type. For example, the male and female components of the SM1QA both have SM1 threads. Separate Female and Male adapter components are also available.

Three ramps on the male component and three dowel pins on the female component allow these adapters to connect or disconnect in less than 1/12 of a turn. Quick-release adapters are ideal for use in space-constrained locations with minimal clearance between the mounted component and the rest of the setup. The female component of these adapters has a knurled outer diameter for easier torque application and a brass setscrew (0.05" hex) that locks the male and female components together with minimal displacement.

To use, thread the male adapter component onto an externally SM-threaded part and the female adapter component



Click to Enlarge

The SM1QA Quick-Release Adapter Makes Exchanging Cameras within an Optical Setup Fast and Easy. Additional Male and Female Components are Available Separately for Connecting Several Components to a Lens Tube Assembly

onto an internally SM-threaded part. Insert the male component into the female component and turn clockwise to connect. For long-term stability, tighten the setscrew on the female component with a 0.050" hex key to lock the two components together. To disconnect the components, loosen the setscrew (if locked) and turn counterclockwise. The female component is engraved with the lock and unlock directions for ease of use.

Thorlabs' quick-release adapters are not compatible with our Cage Systems because the outer diameters of the adapters are too large. However, they can be used as the terminating element of a cage system.

Please Note: The male component has two notches for use with an SPW801 spanner wrench because it is difficult to unthread by hand once attached. Be sure these notches are facing towards the female portion of the adapter prior to

threading it onto a part. This ensures that the quick-release mechanism will function properly (see photo to the left).

APPLICATION NOTES

[Hide Application Notes](#)

Quick-Release Camera Application

The application photo shown to the right uses the SM1QA quick-release adapter set to provide a way to easily connect and disconnect a DCU224C camera from an assembly. The camera can be connected and disconnected from the assembly with only 1/12 of a turn, which allows the USB cable that connects to the camera to remain attached. Without the SM1QA adapter, the camera would need to be rotated roughly three times so the USB cable should be removed. It is often necessary to make alignment adjustments in an optical assembly, thus it is time consuming to repeatedly connect and disconnect cables every time these adjustments need to be made. This same cable management issue is encountered with parts such as our power meter heads and photodetectors.

The quick-release adapter also allows multiple components to be quickly and easily exchanged without disturbing the rest of the optical setup. Separate male and female components of each adapter are available below for quickly interchanging different components.

The tables below correlate to either the imperial or metric list of all components used in the application photograph to the right.

This adapter converts the internal C-mount threads on the camera to external SM1 threads that can be connected to the male portion of the SM1QA quick-release adapter.

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[Hide SM05 Quick-Release Adapter](#)

SM05 Quick-Release Adapter

- ▶ Compatible with SM05 Lens Tubes
- ▶ Ø0.45" (Ø11.4 mm) Clear Aperture
- ▶ Ø1.00" (Ø25.4 mm) Outer Diameter

The SM05QA quick-release adapter provides a way to quickly remove segments of SM05 (0.535"-40) lens tubes for alignment purposes or to swap sections of optical assemblies. This adapter is compatible with any SM05-threaded component. Please note that the outer diameter of this adapter is too large to fit inside a 16

mm cage assembly.

Part Number	Description	Price	Availability
SM05QA	Customer Inspired!SM05 Quick-Release Adapter Set	\$39.00	Today
SM05QAF	Customer Inspired!SM05 Quick-Release Adapter (Female Half)	\$17.00	Today
SM05QAM	Customer Inspired!SM05 Quick-Release Adapter (Male Half)	\$22.00	Today

[Hide SM1 Quick-Release Adapter](#)

SM1 Quick-Release Adapter

- ▶ Compatible with SM1 Lens Tubes
- ▶ Ideal for Swapping Detectors, Power Meter Heads, Cameras, and Ø1" Mounted Optics
- ▶ Ø0.95" (Ø24.1 mm) Clear Aperture
- ▶ Ø1.50" (Ø38.1 mm) Outer Diameter

The SM1QA quick-release adapter provides a way to quickly remove segments of SM1 (1.035"-40) lens tubes for alignment purposes or to swap sections of optical assemblies. We offer optics such as ND filters and diffusers mounted in SM1-compatible mounts. This SM1 quick-release adapter makes swapping these filters or diffusers a very quick task. Many of our power meter heads, detectors, and cameras also feature SM1 threading, which this adapter may be used with. Cameras and power meter heads can be connected and disconnected from any assembly with only 1/12 of a turn when using this quick-release adapter, which allows the USB cable that connects to the devices to remain attached. Without the SM1QA adapter, the device would need to be rotated roughly three times so the USB cable should be removed. Please note that the outer diameter of this adapter is too large to fit inside a 30 mm cage assembly.

Part Number	Description	Price	Availability
SM1QA	Customer Inspired!SM1 Quick-Release Adapter Set	\$42.00	Today
SM1QAF	Customer Inspired!SM1 Quick-Release Adapter (Female Half)	\$18.00	3-5 Days
SM1QAM	Customer Inspired!SM1 Quick-Release Adapter (Male Half)	\$24.00	Today

[Hide SM2 Quick-Release Adapter](#)

SM2 Quick-Release Adapter

- ▶ Compatible with SM2 Lens Tubes
- ▶ Ø1.90" (Ø48.3 mm) Clear Aperture
- ▶ Ø2.50" (Ø63.5 mm) Outer Diameter

The SM2QA quick-release adapter provides a way to quickly remove segments of SM2 (2.035"-40) lens tubes for alignment purposes or to swap sections of optical assemblies. This adapter is compatible with any SM2-threaded component. Please note that the outer diameter of this adapter is too large to fit inside a 60 mm cage assembly.

Part Number	Description	Price	Availability
SM2QA	Customer Inspired!SM2 Quick-Release Adapter Set	\$48.00	Today
SM2QAF	Customer Inspired!SM2 Quick Release Adapter (Female Half)	\$21.00	Today
SM2QAM	Customer Inspired!SM2 Quick Release Adapter (Male Half)	\$27.00	Today

[Hide SM3 Quick-Release Adapter](#)

SM3 Quick-Release Adapter

- ▶ Compatible with SM3 Lens Tubes
- ▶ Ø2.81" (Ø71.4 mm) Clear Aperture
- ▶ Ø3.50" (Ø88.9 mm) Outer Diameter

The SM3QA quick-release adapter provides a way to quickly remove segments of SM3 (3.035"-40) lens tubes for alignment purposes or to swap sections of optical assemblies. This adapter is compatible with any SM3-threaded component. Please note that the outer diameter of this adapter is too large to fit inside any of Thorlabs' cage assemblies.

Part Number	Description	Price	Availability
SM3QA	Customer Inspired!SM3 Quick-Release Adapter Set	\$54.00	Today
SM3QAF	Customer Inspired!SM3 Quick Release Adapter (Female Half)	\$23.50	3-5 Days
SM3QAM	Customer Inspired!SM3 Quick Release Adapter (Male Half)	\$30.50	3-5 Days