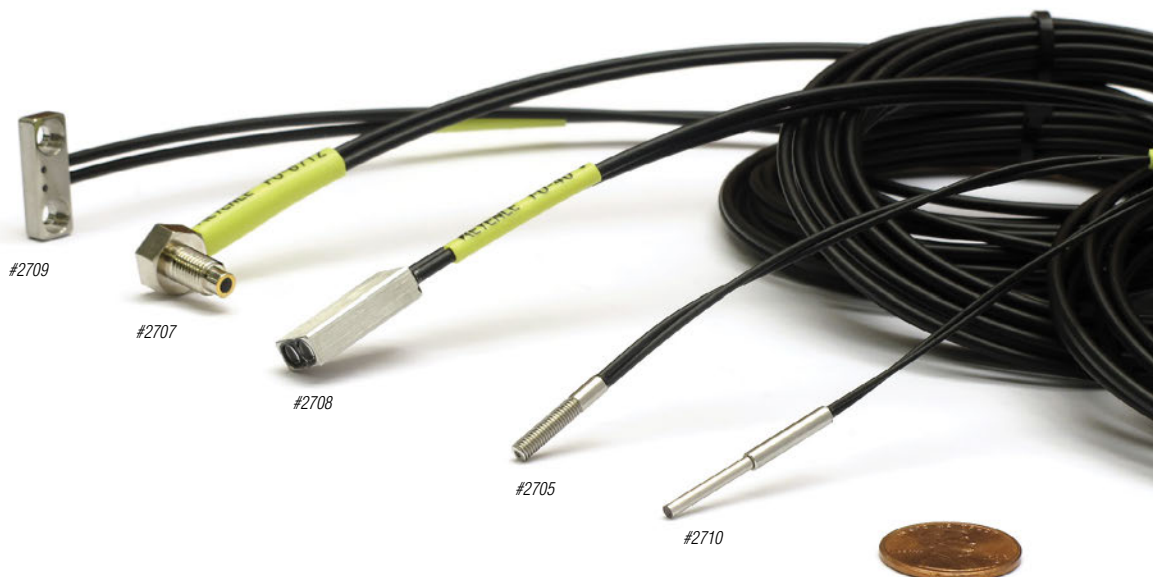
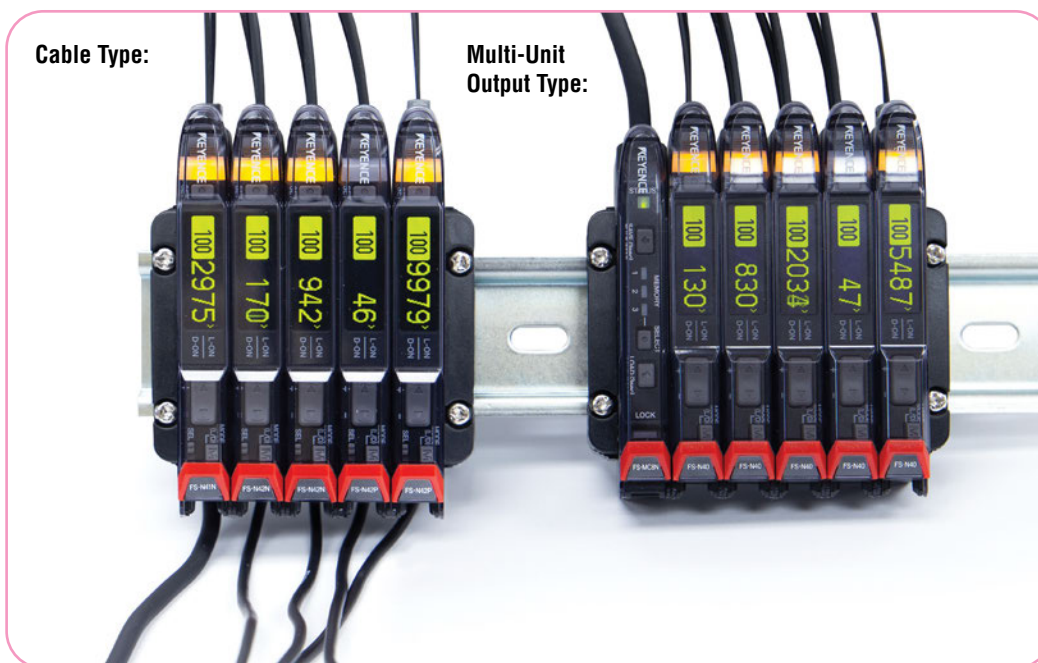


Digital Fiber Optic Sensors

- **Easy setup! One click operation!**
- Great for use in applications where a small sensor is needed.
- Multiple configurations of amplifiers and sensors are available to fit a variety of applications.
- Two different types of main power modules that offer either a cleaner layout or allow a larger expansion of sensors: Multi-Output Unit or Conventional Cable Type.
- Ideal for harsh environments – Sensor will automatically adjust if debris causes the light intensity to drop.
- Its high power enables use in a wide range of detection applications including: transparent targets, repeated bending, small targets and variable target positioning.



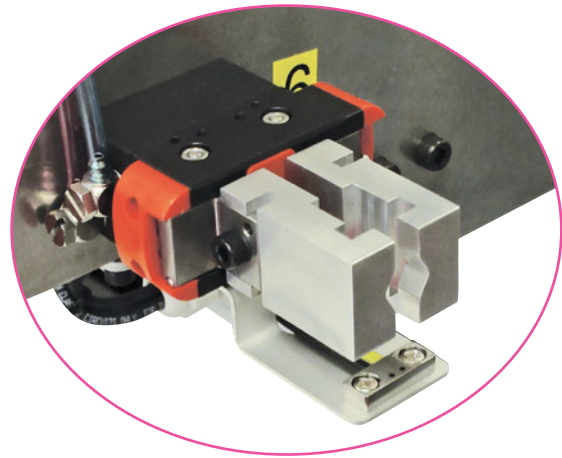
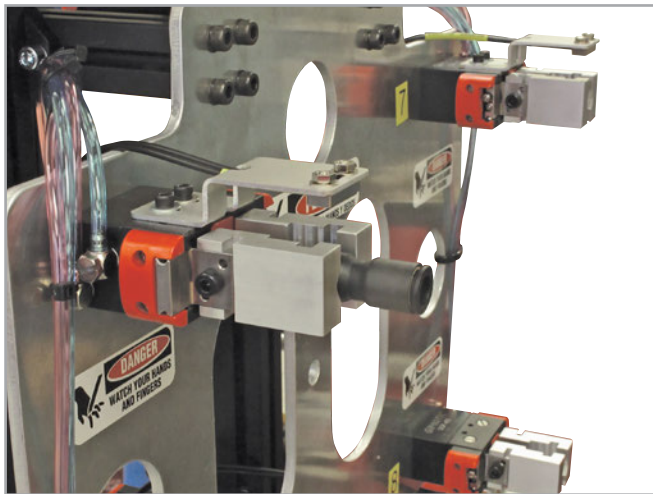
Digital Fiber Optic Sensors

Cable Type: 16 sensors max (1 Main Amplifier + 15 Expansion Units)

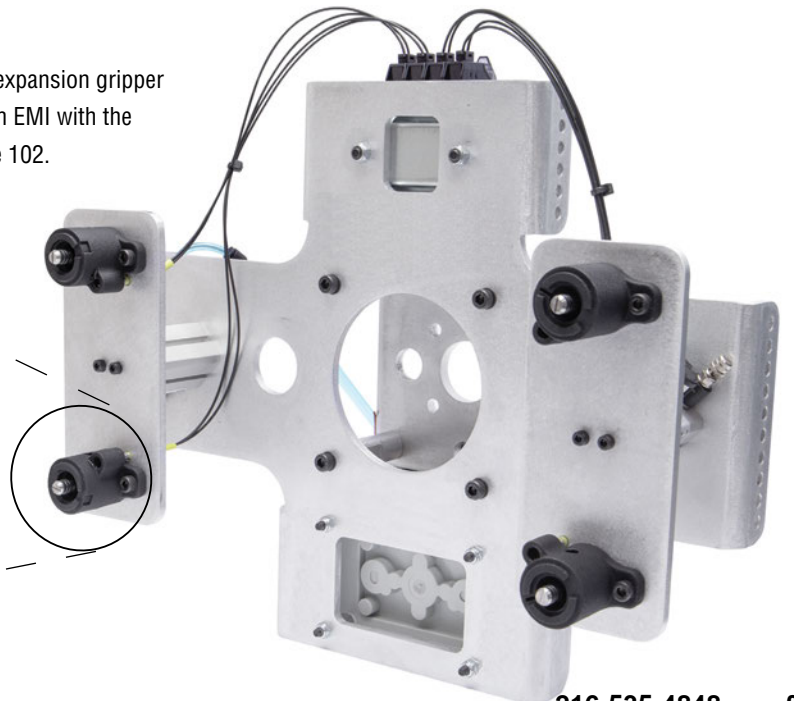
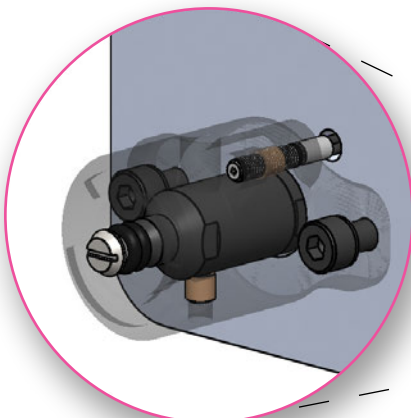
- Configurable with up to 16 sensors (1 Main Amplifier + 15 Expansion Units).
- Main Amplifier DOES control a fiber optic sensor.
- Conventional Amplifier with individual sensor output cables.
- End Units sold separate.

Multi-Unit Output: 8 sensor max (1 Multi-Unit Output Module + 8 Expansion Units)

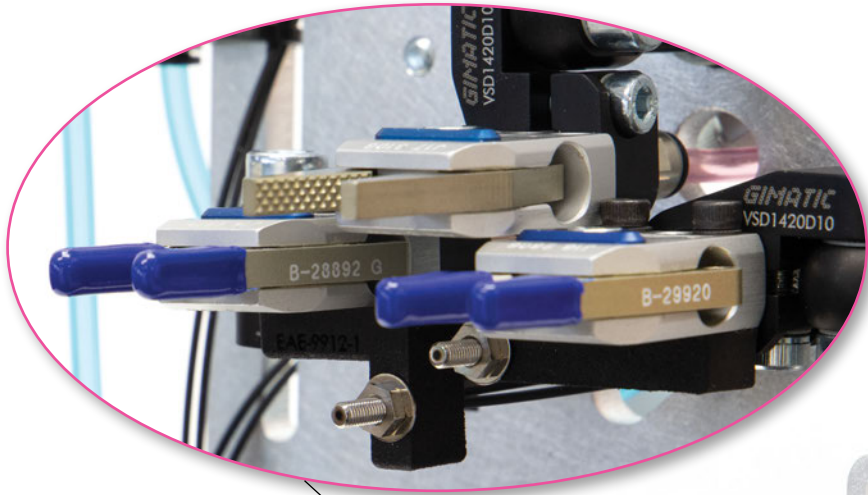
- Configurable with up to 8 sensors (expansion units).
- Multi-Output Unit does NOT control a fiber optic sensor.
- Single cable layout for power supply/outputs for a cleaner set-up.
- Memory Function allows for 3 settings to be saved to eliminate manual calibration. (shown in photo to the right)
- End Units included with Multi-Unit Output module.



This plate-style tooling incorporates fiber optic sensing with an expansion gripper for ID part handling inside of a 3D printed nest. All available from EMI with the help of our EOAT team. Find out more about 3D printing on page 102.



Digital Fiber Optic Sensors



Fiber optics can be used in applications with limited mounting space or as an alternative to photo eye sensors. Because the electronics are contained in a separate housing that can be remotely located, only the miniature fiber must be mounted by the target. This application example uses eight fiber optic sensors. These sensors are able to detect the part without getting interference from the sprue grippers.

Low-profile photo sensors on page 974.



Digital Fiber Optic Sensors

Saturation Cancelling: This function adjusts the optimum power output to prevent excess light intensity in situations where too much light is returned to the fiber optic that may result in the interference with accurate target detection.

1. Excess light intensity causes the display value to go off the scale.



2.



Navigate to the Saturation Cancel setting and select 'Execute'.

3. Light transmission level and light intensity gain are automatically calibrated so stable detection can be achieved.

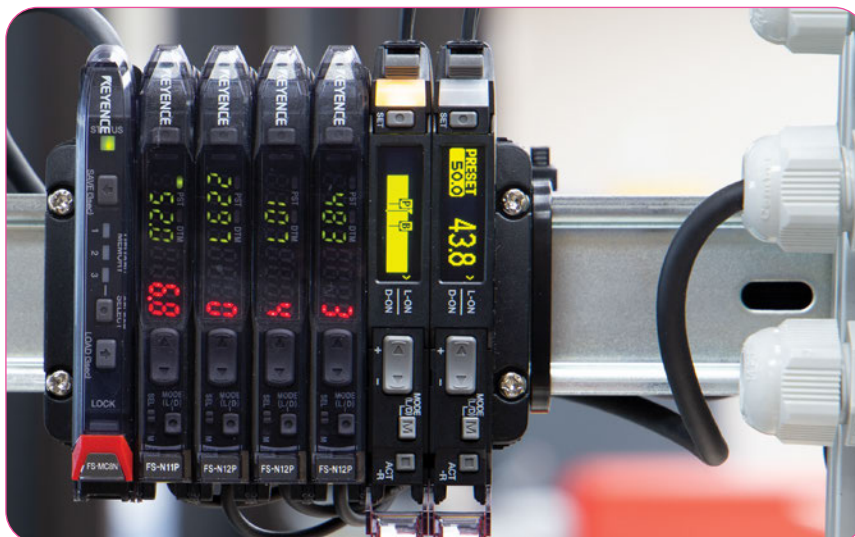


Light Intensity Description: The amplifier and expansion units offer several light transmission modes to accommodate a wide variety of applications and environments. The most powerful of these modes is “TERA Mode” and can be activated with a simple flick of a switch on the Cable-type amplifiers, offering the longest detection range as possible. This is also an option for the Multi-output units, but is found by navigating through the main menu.

Maximum Detection Distance (mm) – TERA Mode

	2705	2707	2708	2709	2710	2720	2723	2724
Fine	1–130	1–380	30–530	1120	1–59	1–170	1–170	1–200
Tera	1–590	1–900	30–2700	1–1000	1–340	1–740	1–800	1–1000

Series Compatibility & Function: These new fiber optic sensors are completely compatible with the main and sub amplifiers from the FS-NEO product series. If a sub-amplifier fails, or if you wish to upgrade to the new cordless expansion units, simply slide it apart, remove the old amplifier, snap in a new unit, and slide back into place. If you are using the Multi-output’s ‘Memory function’ this will automatically program the new unit!



Bar Graph Display: Simplify the display even further by representing the light intensity as a bar graph. This comes complete with a threshold point indicator and peak / bottom value flags.

This is shown to the left where the bar graph and numeric code are displayed on the two units.

Digital Fiber Optic Sensors

- Compatible with the previous version, FS-NEO series amplifiers: #2698, and #2699
- Memory to program up to 3 setups with lock button to lock settings.
- Amplifiers can be mounted to electrical units using DIN rail.



Multi-Unit Output (#2712 & #2713 End Units included)

Quick#	Part#	Description	Control Outputs	External Input	Price
2713	GSE-FS-MC8N	Multi-Output Unit – NPN Output	1	0	\$129.00
2712	GSE-FS-MC8P	Multi-Output Unit – PNP Output			\$129.00
2711	GSE-FS-N40	Expansion Unit			\$184.00
Optional - Mounting					
5073	EL-704W		DIN Rail, 1m		\$18.92

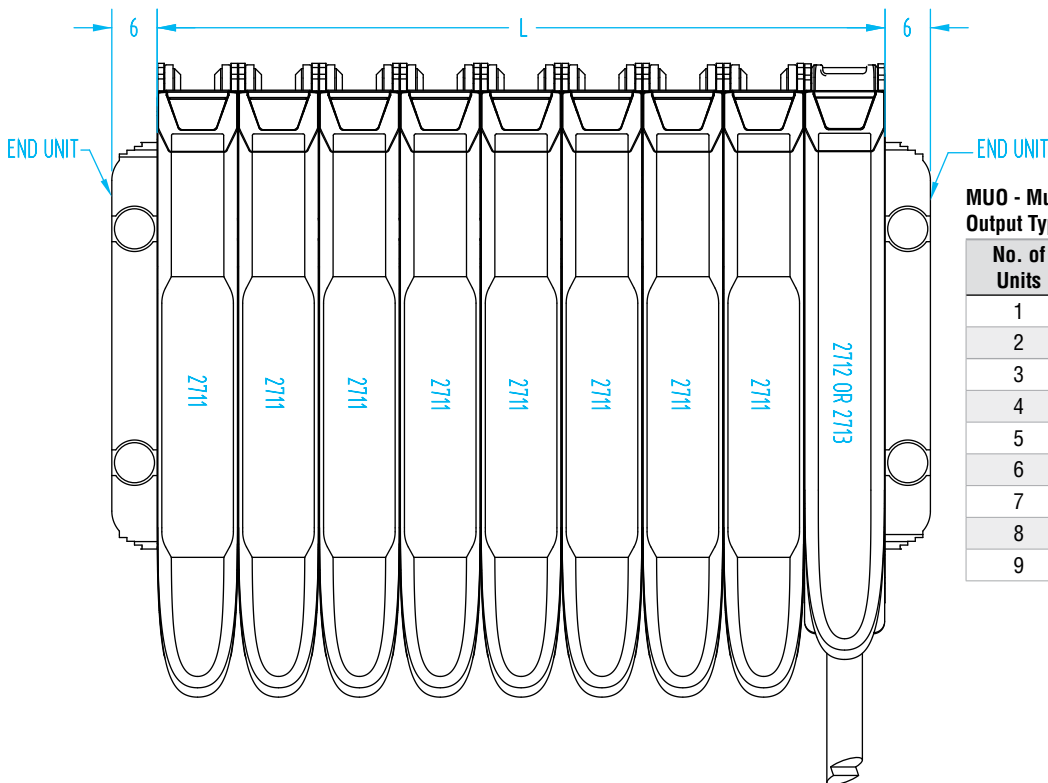


Amplifier - Cable Type

Quick#	Part#	Description	Control Outputs	External Input	Price
2715	GSE-FS-N41N	Main Amplifier - NPN Output	1	0	\$199.00
2716	GSE-FS-N41P	Main Amplifier - PNP Output			\$199.00
2717	GSE-FS-N42N	Expansion Unit - NPN Output			\$199.00
2718	GSE-FS-N42P	Expansion Unit - PNP Output			\$199.00
Optional - Mounting					
2704	OP-26751	End Units, Sold in pairs			\$9.00
2719	GSE-OP-88245	Securing Bracket useful for mounting a single main amplifier to a plate			\$4.50
5073	EL-704W		DIN Rail, 1m		\$18.92

Dimensions when several units are connected (typical configuration shown 100% scale)

*End units must be used when several units are connected.



MUO - Multi-Unit Output Type

No. of Units	L (mm)
1	10.7
2	21.4
3	32.1
4	42.8
5	53.5
6	64.2
7	74.9
8	85.6
9	95.5

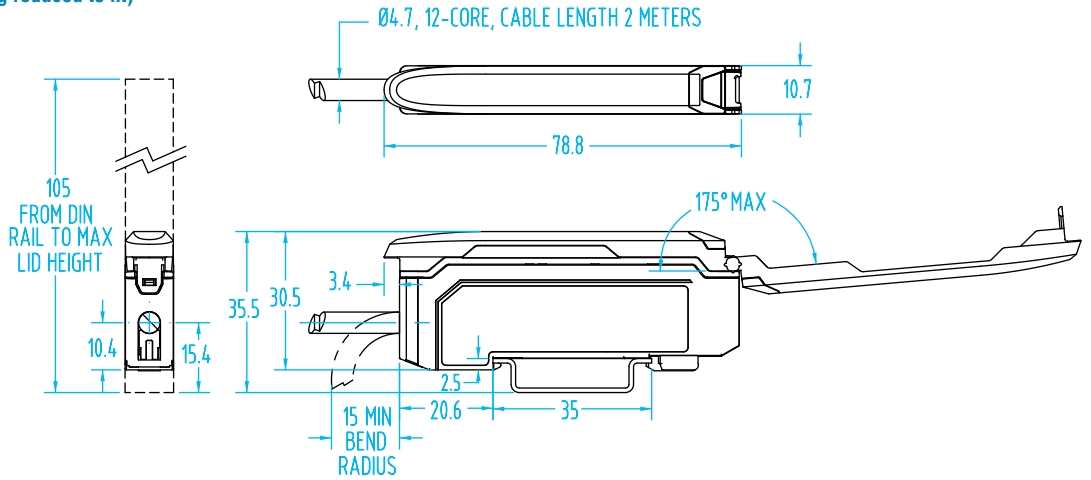
Cable Type

No. of Units	L (mm)
1	10.7
2	21.4
3	32.1
4	42.8
5	53.5
6	64.2
7	74.9
8	85.6
9	95.5
10	106
11	116.6
12	127.2
13	137.8
14	148.4
15	159
16	169.6

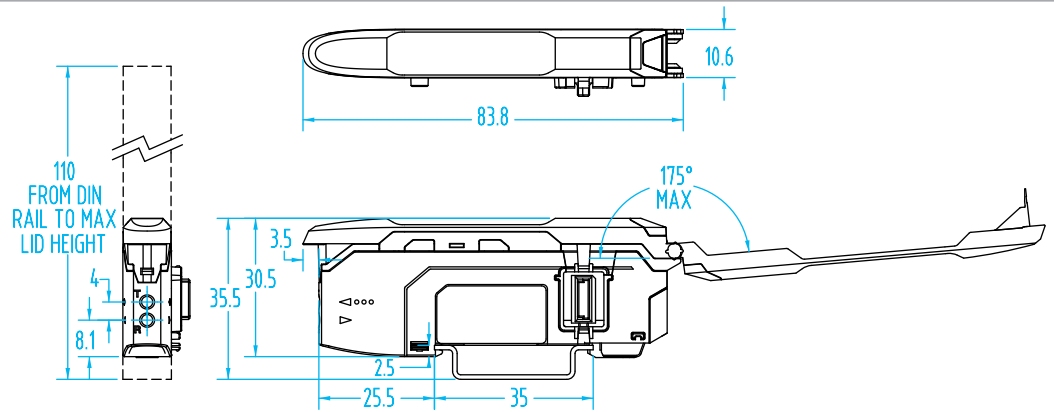
Digital Fiber Optic Sensors

(Dimensioned drawing reduced to fit)

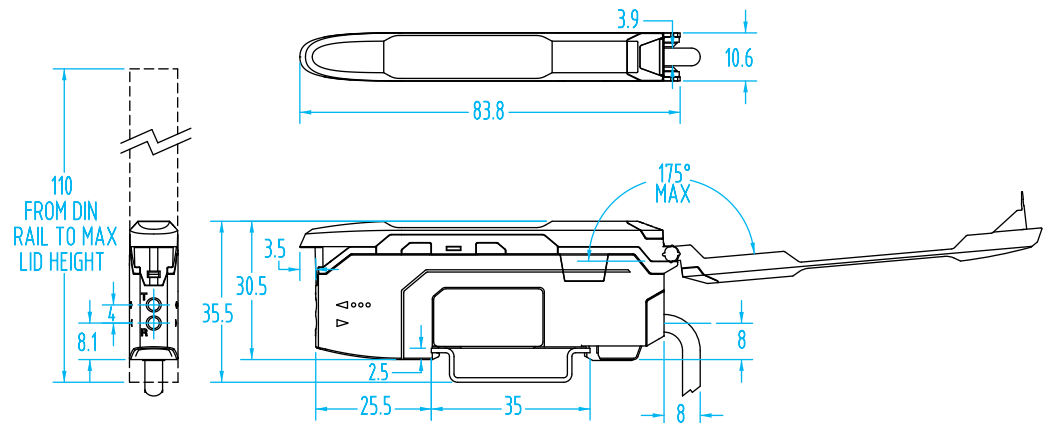
**Multi-Output Unit
#2712 / #2713**



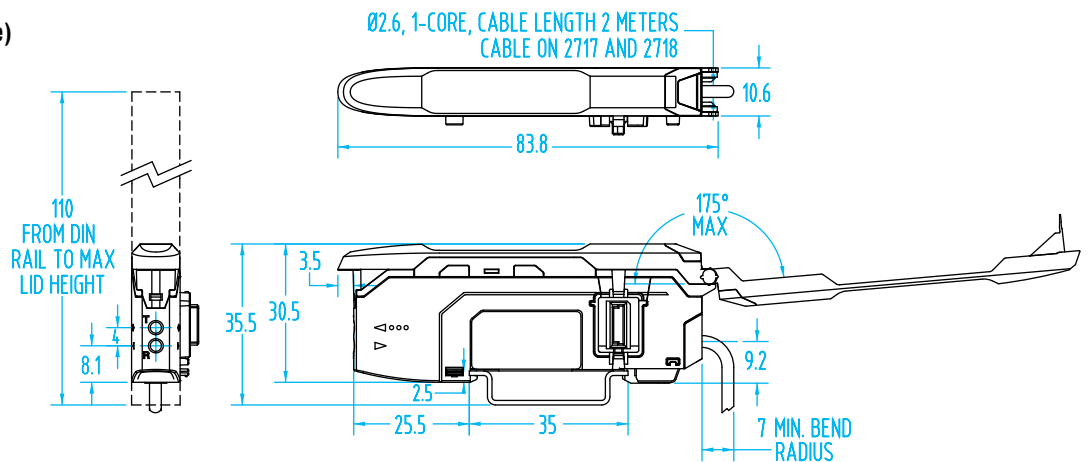
**Expansion Unit
#2711**



**Main Amplifier (cable type)
#2715 / #2716**



**Expansion Unit (cable type)
#2717 / #2718**



Digital Fiber Optic Sensors – Reflective

(Dimensioned drawing shown full size)

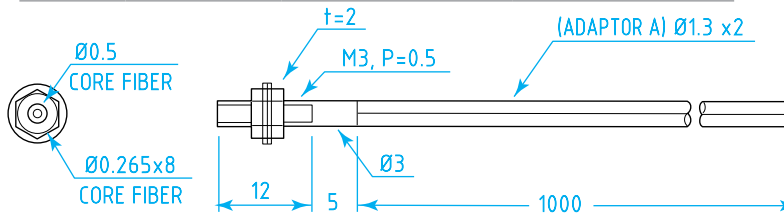
Quick #2705 & #2707 are threaded for easy mounting onto brackets and machine equipment.

Threaded Fiber

Quick#	Part#	Sensing Range*	Weight	Price
2705	FU-35FZ	1-590mm	6g	\$76.00

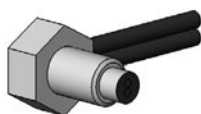


*Must be mounted onto brackets before use.

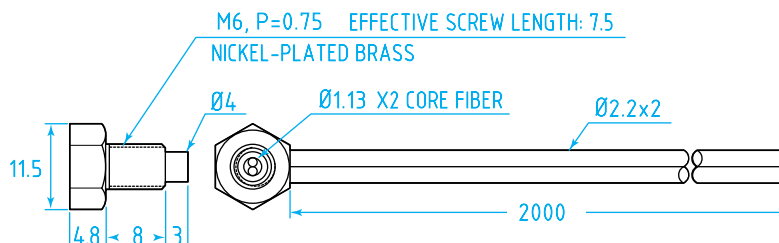


Hex-Shaped Threaded Fiber

Quick#	Part#	Sensing Range*	Weight	Price
2707	FU-67TZ	1-900mm	32g	\$69.00



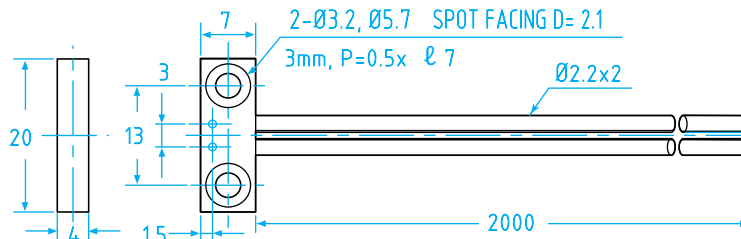
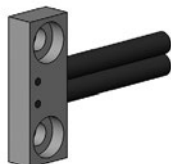
*Must be mounted onto brackets before use.



This thin profile sensor comes with mounting holes for installation where space is limited and has no openings where dust and other foreign matter can enter. Metal housing eliminates concern about damaged sensors. A mounting bracket and hardware are included.

Flat Bracket Fibers - Reflective

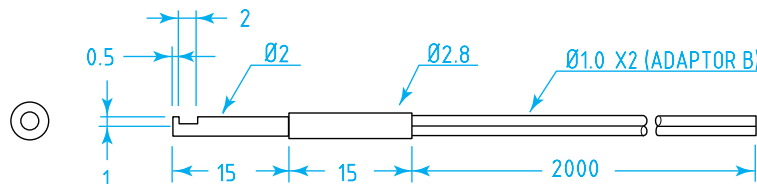
Quick#	Part#	Sensing Range*	Weight	Price
2709	FU-42TZ	1-1000mm	24g	\$129.00



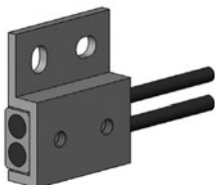
The fiber tip is incorporated into a thin sleeve and installed by drilling a hole and using a set screw. When determining the smallest detectable object, positioning the sensor too closely to the object causes the object to disappear. With the sleeve type, the sensor does'nt become an obstruction and alignment is much easier.

Space Saving Type / Sleeve

Quick#	Part#	Sensing Range*	Weight	Price
2710	FU-31	1-340mm	5g	\$194.00



#2708 & mounting bracket



Quick #2708 has a narrow field of view based on focused aperture angle. This sensor reduces stray light for stable target detection. The high-power reflective type with an 8° aperture angle is suitable for detecting objects at longer distances. A mounting bracket is included. This sensor should not be used when sensing objects less than 30mm away.

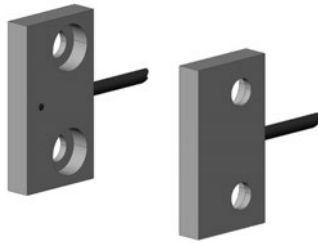
Focused Beam / High Power

Quick#	Part#	Sensing Range*	Weight	Price
2708	FU-40	30-2700mm	23g	\$149.00

Dimensional drawing found online.

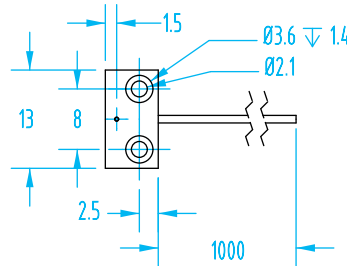
Digital Fiber Optic Sensors – Thru-Beam

(Dimensioned drawing shown full size)

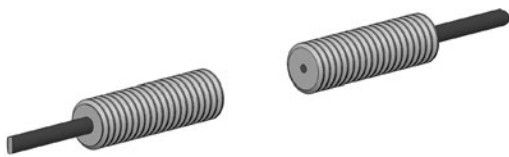
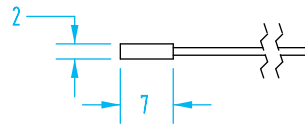


Flat Bracket Fiber - Thru-Beam

Quick#	Part#	Sensing Range*	Weight	Price
2720	GSE-FU-53FZ	1-740mm	10g	\$128.00

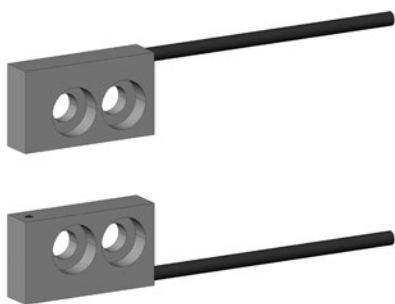
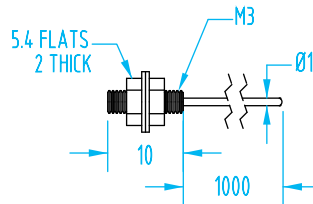


*There are two sides and either side can be used as the fiber or the receiver. They are a mirror image of each other.



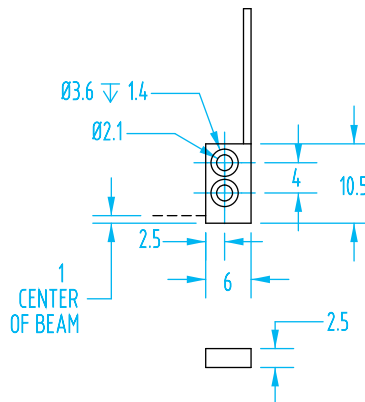
Threaded Fiber - Thru-Beam with High-Flex Cable

Quick#	Part#	Sensing Range*	Weight	Price
2723	GSE-FU-79U	1-800mm	4g	\$129.00



Flat Bracket Fiber- Thru-Beam with High-Flex Cable

Quick#	Part#	Sensing Range*	Weight	Price
2724	GSE-FU-57TE	1-1000mm	5g	\$149.00



*There are two sides and either side can be used as the fiber or the receiver. They are a mirror image of each other.

*Sensing ranges may vary depending on the color and opacity of the workpiece.