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Find the *Marsh Bellofram / ATC 7063AFR4X4NLX* at our website: *Click HERE*

7063A Beam Switch

INSTALLATION INSTRUCTIONS
APRIL 1989

DESCRIPTION

The 7063A coupled with the appropriate cable or probe forms a fiber-optic sensor controller system capable of detecting objects as small as 0.1 mm dia. It uses a modulated beam LED (red or green) light source for immunity to ambient light conditions.

The power source is +12VDC through +24VDC. It is necessary to observe correct polarity. The ATC type 7216 or 7212 controller is recommended as the power source.

The fiber-optic bundle is available as either through-beam or reflective sensing. A choice of either threaded or smaller cylindrical sensor heads is available with cable lengths from 30 to 200 cm.

OPERATION

The ATC 7063 is a dual light-operate/dark operate sensor with two transistor collector outputs that are switched in a complementary manner. With power on and the receiver sensing light (no object interrupts *through-beam* or target object reflecting light back to the *diffuse-reflective* unit), one transistor output (green-wire) is turned *on* (i.e., light-operate) and the other output white wire) is turned off. When the receiver is not sensing light, the two transistor outputs are reversed.

ALIGNMENT

Through-Beam: Through-beam can be the most positive form of detection of an opaque object and provides maximum detection range. As closely as can be judged by the eye, align the receiver and transmitter so that they are pointing directly at each other. With power to the 7063A and the fiber optic cable connected securely, observe the reaction of the LED on the 7063A. It should be on when the units are aligned.

SENSITIVITY

The sensitivity is set by the screwdriver adjustment close to the LED indicator.

Through-Beam: Set sensitivity at max. CW position.

Reflective: Since the diffused reflective technique depends on discriminating between the beam reflected from the object and the beam reflected from the background, it is critical to adjust the sensitivity carefully.

Turn the sensitivity full counter clockwise.

With power on the unit and a sample object in the beam, slowly turn the sensitivity clockwise until the LED lights. Note the position of the setting, remove the object and note the LED is off. Continue turning the sensitivity CW to find a position where the LED lights from background reflections.

Reset the sensitivity to be midway between the two settings. Note, if background reflections are low it will be possible to reach full scale setting without the LED lighting; in that case, reset midway between the first setting and full scale (clockwise).

COLOR DISCRIMINATION

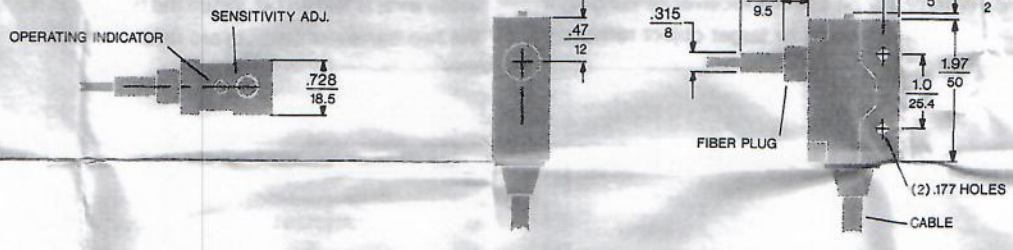
The 7063 can detect a mark of any color on a background of virtually any different color when the appropriate LED light source option is chosen (See Table right).

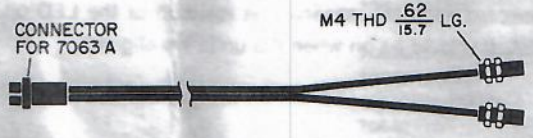
COLOR OF BACKGROUND	COLOR OF MARK						
	Black	Red	Orange	Yellow	Green	Blue	White
White	R/G	G	G	—	G/R	G/R	—
Blue	—	R	G/R	G/R	—	—	G/R
Green	—	R	G/R	G/R	—	—	G/R
Yellow	G/R	G	—	—	G/R	G/R	—
Orange	G/R	G	—	—	G/R	G/R	—
Red	R	—	G	G	R	R	G
Black	—	R	G/R	G/R	—	—	G/R

R: red LED G: green LED

DIMENSIONS

INCHES / MILLIMETERS





THREADED THROUGH-BEAM FIBER



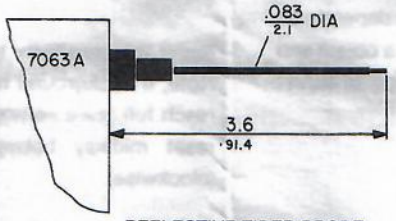
CYLINDRICAL THROUGH-BEAM FIBER



THREADED REFLECTIVE FIBER



CYLINDRICAL REFLECTIVE FIBER



REFLECTIVE FIBER PROBE

SPECIFICATIONS

MODELS
Fiber-optic bundle: 30, 60, 100 or 200 cm long
Choice of two:
Through-beam bundle
Reflective (coaxial) bundle

LIGHT SOURCE
Choice of red or green modulated-beam LED

OPERATING DISTANCE
(see Chart below)

OPERATING MODE
Light or Dark operate

TARGET SIZE
Objects: 0.1 mm dia. minimum
Color marks: 0.15 mm wide minimum

RESPONSE TIME
3 ms

OUTPUT
Complementary transistor collectors
Maximum switching current: 80 mA

AMBIENT TEMPERATURE
14°F to 140°F (– 10°C to 60°C)

POWER REQUIREMENTS
Provided by ATC 7216 or 7212 Controller:
+ 12V to + 24V DC ± 10%: 45 mA max.

WIRING
Pre-wired 4-conductor cable, 39 in. (1 m) long

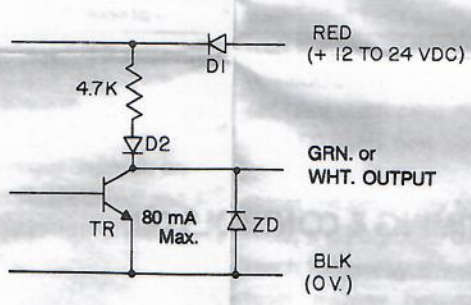
HOUSING
Water-tight zinc alloy die casting
Meets IP-65 (IEC): NEMA 3, 4, 6, 12, 13

WEIGHT
NET: 5.2 oz (150 g)
SHIPPING: 7.2 oz (207 g)

	PART NUMBERS		OPERATING DISTANCE		
	THREADED	CYLINDRICAL	RED	GREEN	CABLE LENGTH
Through-Beam	70632700100	70632710100	100 mm	30 mm	30 cm
	70632700200	70632710200	100 mm	25 mm	60 cm
	70632700300	70632710300	100 mm	20 mm	100 cm
	70632700400	70632710400	100 mm	15 mm	200 cm
		70632720200	300 mm	80 mm	60 cm
		70632720300	300 mm	70 mm	100 cm
		70632720400	300 mm	60 mm	200 cm
Diffuse-Reflective*	70632701100	70632711100	50 mm	8 mm	30 cm
	70632701200	70632711200	45 mm	7 mm	60 cm
	70632701300	70632711300	40 mm	5 mm	100 cm
	70632701400	70632711400	20 mm	3 mm	200 cm
		70632711500	15 mm	2.5 mm	90 mm (Probe)

*Diffuse-Reflective Cables can be used with Retro-Reflective Targets. Operating distance will increase. For details consult factory.

WIRING



Concerning Safety . . . ATC makes every effort to build a safe product. We try to state specifications accurately. But every product made will eventually fail, so design our products into equipment so that they fail safely.

ORDERING CODE 7063A F R 4 X 4 N L X

BASIC MODEL

TYPE
- F — Fiber Optic

SOURCE
- R — Red modulated-beam LED
- G — Green modulated-beam LED

OPERATION
- 4 — Light/Dark operate

DELAY
- X — No delay

NUMBER OF WIRES
- 4 — Four wires

POWER REQUIREMENT
- N — 24 VDC

OUTPUT
- L — Logic

FEATURES
- X — Standard

ACCESSORY PARTS
One required for operation

PART NUMBER	
70632700100	70632710300
70632700200	70632710400
70632700300	70632711100
70632700400	70632711200
70632701100	70632711300
70632701200	70632711400
70632701300	70632711500
70632701400	70632720200
70632710100	70632720300
70632710200	70632720400

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