

TURCK

DC In-line Flow Monitors



- FCI-D04A4P-AP8X-H1141 (M6870640)**
- FCI-D04A4P-LIX-H1141 (M6870641)**
- FCI-D10A4P-AP8X-H1141 (M6870642)**
- FCI-D10A4P-LIX-H1141 (M6870643)**
- FCI-D10A4P-ARX-H1140 (M6870644)**

- Ideal for very low flow rates
- For use with liquids or gases
- Stainless steel wetted parts
- Connects directly into the pipeline with a 1/4" thread
- 4 mm or 10 mm diameter available
- Pressure resistance up to 290 psi
- IP 67 rating
- Switch-point accuracy during changes in flow temperature
- Fast response time

These flow monitors are ideal for applications involving very low flow rates of liquids or gasses. The fast response time allows these flow monitors to be used in applications where other flow switches can't perform. They can maintain their switchpoint accuracy over the full temperature range and are pressure resistant up to 290 psi.

This series of flow monitors are designed for mounting directly into the pipeline with no probe to protrude into the flow. The G1/4 outer threads can be used together with the tube fitting adapters located on page 38 or with other suitable connection hardware.

This series of flow monitor is completely self-contained and requires no separate amplifier for operation. Versions are available with discrete or analog output, both adjustable with a potentiometer located on the top of the sensor just under the output display.

The housings are made from PBT plastic with the wetted parts comprised of 316 stainless steel

Conversion Table for Liquids		
To Convert	Into	Multiply by:
ml / min	in ³ / min	0.0610
	gal / hr	0.0159
	gal / day	0.3804
	l / min	0.0010
	l / hr	0.0600

Conversion Table for Gases		
To Convert	Into	Multiply by:
l / min	in ³ / min	60.9984
	ft ³ / min	0.0353

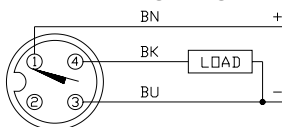
In-line Flow Monitors 316TI Stainless Steel

FCI-D04A4P-AP8X-H1141 (Discrete PNP Transistor Output)

FCI-D10A4P-AP8X-H1141 (Discrete PNP Transistor Output)

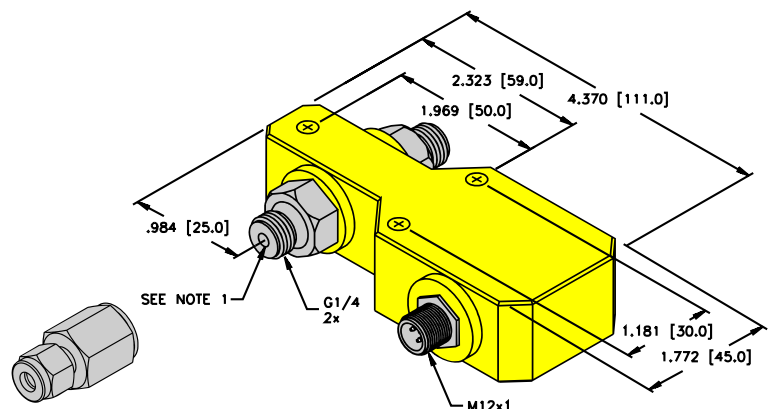
Type	FCI-D04A4P-AP8X-H1141	FCI-D10A4P-AP8X-H1141
Operating Range (flow rate)		
Water	0.05-1 L/min (.001-.53 GPM)	0.2-6 L/min (.26-3.17 GPM)
Oil	0.05-2 L/min (.001-.53 GPM)	0.2-6 L/min (.001-.53 GPM)
Rated Operational Voltage (DC) UB	21 to 26 VDC	
Current Consumption	≤ 50 mA	
Output Function	Normally Open, PNP	
Short-circuit Protection	Yes	
Reverse Polarity Protection	Yes	
Max. Voltage Drop at IB	≤ 1.5 V	
Switching Current	0.4 mA	
Temperature Range		
Ambient Temperature	0° to +60°C (32° to +140°F).	
Medium Temperature	-20° to +80°C (-20° to +176°F).	
Time Delay Before Availability	2-15 s (1 s typical)	
Temperature gradient (°C/S)	6.7°C/S	
Pressure Rating	290 psi	
Repeatability	≤ 3% of full range	
Housing Material (DIN 2 462/17 440)	PBT Plastic with 316TI stainless steel (1.4571)	
Enclosure (DIN 40 050)	IP 67	
Max. Fixing Torque of Coupling Nut	Max. 100 Nm	
Connection	4-wire euromast quick disconnects RK 4.4T-* or WK 4.4T-* (Page 65) * = Length in meters	

AP8X Wiring Diagram



BSPP to standard tube fitting adapters. (must be ordered separately)

Tube Size	Type	ID Number
1/8"	FSV-SS 1/8 x 1/4	A2535
1/4"	FSV-SS 1/4 x 1/4	A2534
3/8"	FSV-SS 3/8 x 1/4	A2533
1/2"	FSV-SS 1/2 x 1/4	A2536



Note: 1. Dimension of hole size for the different units is as follows:

FCI-D04... = Ø.118 [3.0]

FCI-D10... = Ø.354 [9.0]

FCI-D*A4P-*-H1141**

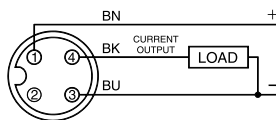
In-line Flow Monitors
316TI Stainless Steel

FCI-D04A4P-LIX-H1141 (4 -20 mA Current Analog Output)

FCI-D10A4P-LIX-H1141 (4 -20 mA Current Analog Output)

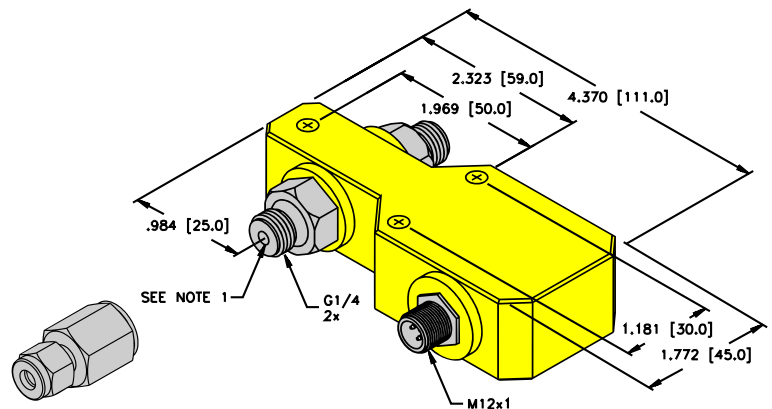
Type	FCI-D04A4P-LIX-H1141	FCI-D10A4P-LIX-H1141
Operating Range (flow rate)		
Water	0.05-1 L/min (.001-.53 GPM)	0.2-6 L/min (.26-3.17 GPM)
Oil	0.05-2 L/min (.001-.53 GPM)	0.2-6 L/min (.001-.53 GPM)
Rated Operational Voltage (DC) UB	21 to 26 VDC	
Current Consumption	≤ 50 mA	
Output Function	Current 4-20 mA	
Short-circuit Protection	Yes	
Reverse Polarity Protection	Yes	
Max. Voltage Drop at IB	≤1.5 V	
Switching Current	0.4 mA	
Temperature Range		
Ambient Temperature	0° to +60°C (32° to +140°F).	
Medium Temperature	-20° to +80°C (-20° to +176°F).	
Time Delay Before Availability	2-15 s (1 s typical)	
Temperature gradient (°C/S)	6.7°C/S	
Pressure Rating	290 psi	
Repeatability	≤3% of full range	
Housing Material (DIN 2 462/17 440)	PBT Plastic with 316TI stainless steel (1.4571)	
Enclosure (DIN 40 050)	IP 67	
Max. Fixing Torque of Coupling Nut	Max. 100 Nm	
Connection	4-wire eurofast quick disconnects RK 4.4T-* or WK 4.4T-* (Page 65) * = Length in meters	

LIX Wiring Diagram



BSPB to standard tube fitting adapters.
 (must be ordered separately)

Tube Size	Type	ID Number
1/8"	FSV-SS 1/8 x 1/4	A2535
1/4"	FSV-SS 1/4 x 1/4	A2534
3/8"	FSV-SS 3/8 x 1/4	A2533
1/2"	FSV-SS 1/2 x 1/4	A2536



Note: 1. Dimension of hole size for the different units is as follows:

FCI-D04... = Ø.118 [3.0]

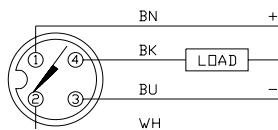
FCI-D10... = Ø.354 [9.0]

FCI-D*A4P-LIX-H1141

In-line Flow Monitors 316TI Stainless Steel FCI-D10A4P-ARX-H1141 (Relay Output)

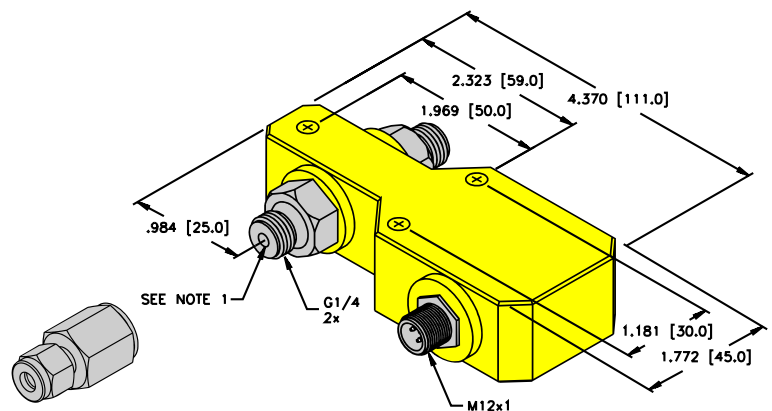
Type	FCI-D10A4P-ARX-H1141
Operating Range (flow rate)	
Water	0.2-6 L/min (.26-3.17 GPM)
Oil	0.2-6 L/min (.001-.53 GPM)
Rated Operational Voltage (DC) UB	21 to 26 VDC
Current Consumption	≤ 50 mA
Output Function	Relay Output
Short-circuit Protection	Yes
Reverse Polarity Protection	Yes
Max. Voltage Drop at IB	≤1.5 V
Switching Current	0.4 mA
Temperature Range	
Ambient Temperature	0° to +60°C (32° to +140°F).
Medium Temperature	-20° to +80°C (-20° to +176°F).
Time Delay Before Availability	2-15 s (1 s typical)
Temperature gradient (°C/S)	6.7°C/S
Pressure Rating	290 psi
Repeatability	≤3% of full range
Housing Material (DIN 2 462/17 440)	PBT Plastic with 316TI stainless steel (1.4571)
Enclosure (DIN 40 050)	IP 67
Max. Fixing Torque of Coupling Nut	Max. 100 Nm
Connection	4-wire euromast quick disconnects RK 4.4T-* or WK 4.4T-* (Page 65) * = Length in meters

ARX Wiring Diagram



BSPP to standard tube fitting adapters. (must be ordered separately)

Tube Size	Type	ID Number
1/8"	FSV-SS 1/8 x 1/4	A2535
1/4"	FSV-SS 1/4 x 1/4	A2534
3/8"	FSV-SS 3/8 x 1/4	A2533
1/2"	FSV-SS 1/2 x 1/4	A2536



Note: 1. Dimension of hole size for the different units is as follows:

FCI-D04... = Ø.118 [3.0]

FCI-D10... = Ø.354 [9.0]

FCI-D*A4P-ARX-H1141

TURCK

DC In-line Flow Monitors



FCI-D03A4-NA-H1141/M16

- Ideal for very low flow rates
- Stainless steel housing
- Connects directly into the pipeline
- Self-tapping screw connection according to DIN 2353 (Must be ordered separately)
- 3/8" or 10 mm outside pipe diameter
- Pressure resistance up to 72 psi
- Enclosure meets IP 67
- Switch-point accuracy during changes in flow temperature
- 3.5 mm inside diameter standard
9.3 mm also available
(Consult Factory)

This series of flow monitors are designed to be mounted directly into pipelines so the probe does not protrude into the flow. The compression fitting provides a hermetical and pressure resistant connection.

These flow monitors are offered with an inner diameter of 3.5 mm which can monitor fluids in the 5 to 300 ml/min range. A 9.3 mm i.d version monitors fluid flow between 30-1800 ml/min (consult factory).

The flow monitor housings are made of 316TI stainless steel and are pressure resistant up to 72 psi.

These flow monitors require a remote signal processor for operation. The following signal processor models are available:

MK96... *multimodul* style (see pages 53-58)

MS96... *multisafe* style (see page 59-62)

All necessary setting for the correct function of the monitor are programmed on the signal processor.

Additional functions such as fluid temperature monitoring and switch. Off delay functions are provided if the monitor is used with a MS96-12-R signal processor.

Conversion Table for Liquids

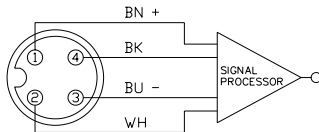
To Convert	Into	Multiply by:
ml / min	in ³ / min	0.0610
	gal / hr	0.0159
	gal / day	0.3804
	l / min	0.0010
	l / hr	0.0600

Conversion Table for Gases

To Convert	Into	Multiply by:
l / min	in ³ / min	60.9984
	ft ³ / min	0.0353

In-line Flow Monitors 316TI Stainless Steel FCI-D03A4-NA-H1141/M16

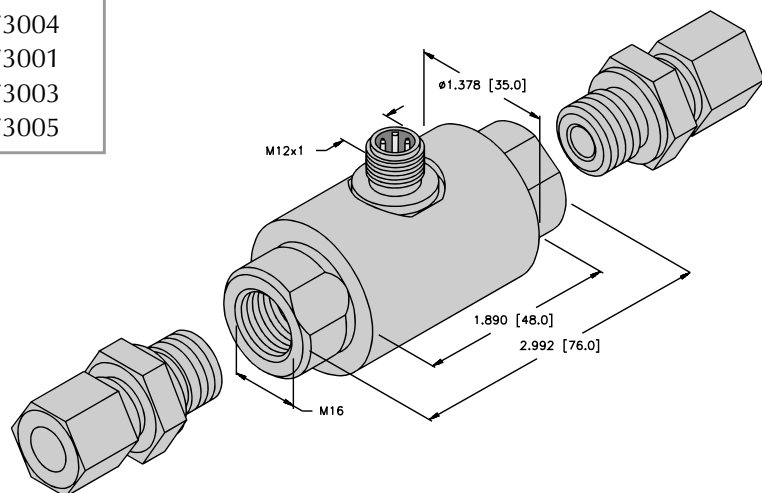
Type	FCI-D03A4-NA-H1141/M16
ID Number	M6870633
Temperature Range (fluid)	-20° to +80°C (-4° to +176°F) cont.
Operating Range (flow rate)	
Water	5-150 ml/min
Oil	15-300 ml/min
Repeatability	±5% of full range
Time Delay Before Availability	
Switch ON time (above setpoint)	2-15 s (8 s typical)
Switch OFF time (below setpoint)	1-15 s (2 s typical)
Temperature gradient	max. 250°C/min. (450°F/min)
Pressure Rating	
Maximum flow	145 psi (10 bar) 300 (1800) l/h
Housing Material (DIN 2 462/17 440)	
Enclosure (DIN 40 050)	316TI stainless steel (1.4571) IP 67, NEMA 1,3,4,12,13
Operating temperature	-25° to +80°C (-13° to +176°F)
Connection	
	4-wire eurofast quick disconnects RK 4.4T-* or WK 4.4T-* (Page 65) * = Length in meters



See pages 53-62 for signal processor choices.

Self tapping screw coupling according to DIN 2353 (must be ordered separately)

Size	Type	ID Number
6 mm	FSV-D06/M12	M6873002
8 mm	FSV-D08/M12	M6873004
10 mm	FSV-D10/M16	M6873001
12 mm	FSV-D12/M16	M6873003
3/8"	FSV-D3/8-M16	M6873005



FCI-D03A4-NA-H1141/M16