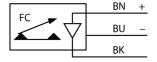


## Flow Monitoring Immersion Sensor with Integrated Processor FCS-M18-LIX-0.2-RS4T

Type         FCS-M18-LIX-0.2-RS4T           Mounting         Immersion sensor           Air Operating Range         0.515 m/s           Stand-by time         2040 s           Setting time         typ. 2 s           Temperature gradient         ≤ 200 K/min           Medium temperature         -20+70 °C           Ambient temperature         -20+70 °C           Electrical data         Operating voltage U₂           Operating voltage U₂         19.228.8 VDC           Current consumption         ≤ 70 mA           Output function         Analog output           Short-circuit protection         yes           Reverse polarity protection         yes           Reverse polarity protection         yes           Current output         420 mA           Load         200500 Ω           Protection class         IP67           Mechanical data         Immersion           Housing material         Metal, CuZn           Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²²           Process connection	ID	6870796
Air Operating Range       0.515 m/s         Stand-by time       2040 s         Setting time       typ. 2 s         Temperature gradient       ≤ 200 K/min         Medium temperature       -20+70 °C         Ambient temperature       -20+70 °C         Electrical data       Operating voltage U₀         Output function       ≤ 70 mA         Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 × 1	Туре	FCS-M18-LIX-0.2-RS4T
Air Operating Range       0.515 m/s         Stand-by time       2040 s         Setting time       typ. 2 s         Temperature gradient       ≤ 200 K/min         Medium temperature       -20+70 °C         Ambient temperature       -20+70 °C         Electrical data       Operating voltage U₀         Output function       ≤ 70 mA         Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 × 1		
Stand-by time         2040 s           Setting time         typ. 2 s           Temperature gradient         ≤ 200 K/min           Medium temperature         -20+70 °C           Ambient temperature         -20+70 °C           Electrical data         ————————————————————————————————————	Mounting	Immersion sensor
Setting time         typ. 2 s           Temperature gradient         ≤ 200 K/min           Medium temperature         -20+70 °C           Ambient temperature         -20+70 °C           Electrical data         19.228.8 VDC           Current consumption         ≤ 70 mA           Output function         Analog output           Short-circuit protection         yes           Reverse polarity protection         yes           Current output         420 mA           Load         200500 Ω           Protection class         IP67           Mechanical data         Immersion           Housing material         Metal, CuZn           Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 × 1	Air Operating Range	0.515 m/s
Temperature gradient         ≤ 200 K/min           Medium temperature         -20+70 °C           Ambient temperature         -20+70 °C           Electrical data         19.228.8 VDC           Current consumption         ≤ 70 mA           Output function         Analog output           Short-circuit protection         yes           Reverse polarity protection         yes           Current output         420 mA           Load         200500 Ω           Protection class         IP67           Mechanical data         Immersion           Housing material         Metal, CuZn           Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 × 1	Stand-by time	2040 s
Medium temperature       -20+70 °C         Ambient temperature       -20+70 °C         Electrical data       19.228.8 VDC         Current consumption       ≤ 70 mA         Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 × 1	Setting time	typ. 2 s
Ambient temperature       -20+70 °C         Electrical data       19.228.8 VDC         Current consumption       ≤ 70 mA         Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 × 1	Temperature gradient	≤ 200 K/min
Electrical data  Operating voltage $U_s$ 19.228.8 VDC  Current consumption $\leq 70 \text{ mA}$ Output function  Analog output  Short-circuit protection  yes  Reverse polarity protection  yes  Current output $420 \text{ mA}$ Load $200500 \Omega$ Protection class  IP67  Mechanical data  Design  Immersion  Housing material  Brass, brass, nickel-plated  Electrical connection  Cable length (L) $2 \text{ m}$ Core cross-section $3 \times 0.5 \text{ mm}^2$ Process connection	Medium temperature	-20+70 °C
Operating voltage U₀       19.228.8 VDC         Current consumption       ≤ 70 mA         Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 × 1	Ambient temperature	-20+70 °C
Operating voltage U₀       19.228.8 VDC         Current consumption       ≤ 70 mA         Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 × 1		
	Electrical data	
Output function       Analog output         Short-circuit protection       yes         Reverse polarity protection       yes         Current output       420 mA         Load       200500 Ω         Protection class       IP67         Mechanical data       Immersion         Housing material       Metal, CuZn         Sensor material       Brass, brass, nickel-plated         Electrical connection       Cable with connector         Cable length (L)       2 m         Core cross-section       3 x 0.5 mm²         Process connection       M18 x 1	Operating voltage U <sub>B</sub>	19.228.8 VDC
Short-circuit protection yes  Reverse polarity protection yes  Current output $420 \text{ mA}$ Load $200500 \Omega$ Protection class IP67  Mechanical data  Design Immersion  Housing material Metal, CuZn  Sensor material Brass, brass, nickel-plated  Electrical connection Cable with connector  Cable length (L) 2 m  Core cross-section $3 \times 0.5 \text{ mm}^2$ Process connection M18 × 1	Current consumption	≤ 70 mA
Reverse polarity protection yes  Current output $420 \text{ mA}$ Load $200500 \Omega$ Protection class IP67  Mechanical data  Design Immersion  Housing material Metal, CuZn  Sensor material Brass, brass, nickel-plated  Electrical connection Cable with connector  Cable length (L) 2 m  Core cross-section $3 \times 0.5 \text{ mm}^2$ Process connection M18 × 1	Output function	Analog output
Current output $420 \text{ mA}$ Load $200500 \Omega$ Protection class IP67  Mechanical data Design Immersion Housing material Metal, CuZn Sensor material Brass, brass, nickel-plated Electrical connection Cable with connector Cable length (L) 2 m Core cross-section $3 \times 0.5 \text{ mm}^2$ Process connection M18 × 1	Short-circuit protection	yes
Load 200500 $\Omega$ Protection class IP67  Mechanical data  Design Immersion  Housing material Metal, CuZn  Sensor material Brass, brass, nickel-plated  Electrical connection Cable with connector  Cable length (L) 2 m  Core cross-section $3 \times 0.5 \text{ mm}^2$ Process connection M18 × 1	Reverse polarity protection	yes
Protection class         IP67           Mechanical data         Immersion           Design         Immersion           Housing material         Metal, CuZn           Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1	Current output	420 mA
Mechanical data  Design Immersion  Housing material Metal, CuZn  Sensor material Brass, brass, nickel-plated  Electrical connection Cable with connector  Cable length (L) 2 m  Core cross-section 3 x 0.5 mm²  Process connection M18 × 1	Load	200500 Ω
Design         Immersion           Housing material         Metal, CuZn           Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1	Protection class	IP67
Design         Immersion           Housing material         Metal, CuZn           Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1		
Housing material Metal, CuZn  Sensor material Brass, brass, nickel-plated  Electrical connection Cable with connector  Cable length (L) 2 m  Core cross-section 3 x 0.5 mm²  Process connection M18 × 1	Mechanical data	
Sensor material         Brass, brass, nickel-plated           Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1	Design	Immersion
Electrical connection         Cable with connector           Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1	Housing material	Metal, CuZn
Cable length (L)         2 m           Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1	Sensor material	Brass, brass, nickel-plated
Core cross-section         3 x 0.5 mm²           Process connection         M18 x 1	Electrical connection	Cable with connector
Process connection M18 × 1	Cable length (L)	2 m
	Core cross-section	3 x 0.5 mm <sup>2</sup>
Power on display LED, Green	Process connection	M18 × 1
Power on display LED, Green		
	Power on display	LED, Green

- Flow sensor for gaseous media
- Calorimetric principle
- Adjustment via potentiometer
- Status display via 2-color LED
- Chrome-plated brass sensor
- DC 3-wire, 19.2...28.8 VDC
- 4...20 mA analog output

## **Wiring Diagram**



## **Functional principle**

The function of immersion flow sensors is based on the thermodynamic principle. The sensor is heated up by a few degrees Celsius compared to the flow medium. If the medium flows past the sensor, the heat generated in the sensor is dissipated. The resulting temperature is measured and compared with the temperature of the medium. The flow condition of each medium can be derived from the temperature difference obtained. Thus, TUR-CK flow sensors reliably and wear-free monitor the flow of liquid or gaseous media.

