



Toshiba Electromagnetic Flowmeter LF470/LF612 Specification Sheet

Electromagnetic flowmeter

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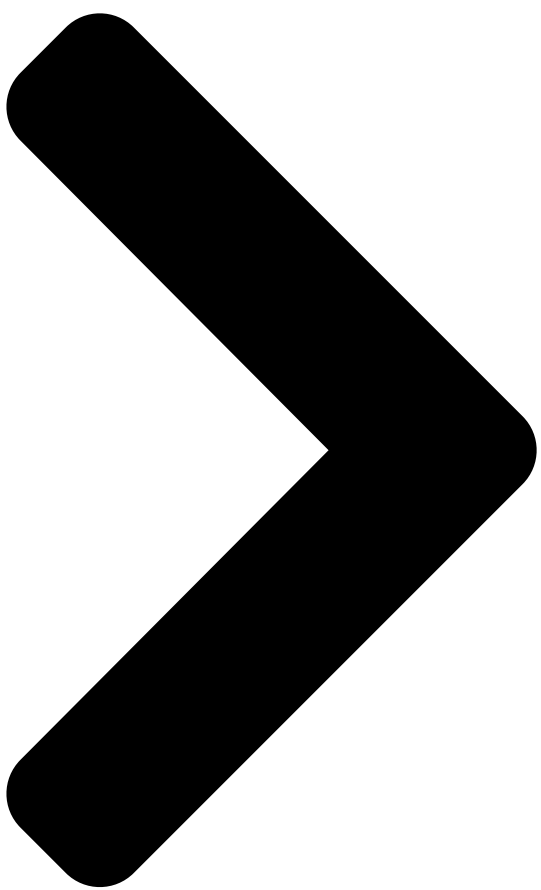
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Field Intelligent Device Series Electromagnetic Flowmeter **TOSHIBA** Introduction

The electromagnetic flowmeter uses Faraday's Law of electromagnetic induction to measure the process flow. The device consists of two units: a detector, through which the fluid to be measured flows and in which low-level signals proportional to flow rates are obtained; and a converter, which supplies excitation current to the detector, and amplifies the signals from the detector and then processes and converts the signals into the 4-20



mA dc current signal. The LF470 is a small meter size detector designed to measure a small amount of fluids containing substances such as chemicals.

TOSHIBA

The wetted materials for the LF470 are corrosion resistant ceramic and platinum electrodes and are applicable to almost any kind of fluids. The LF470 is a lightweight palm-sized multi-functional converter LF612 (separate type) and

1

LF232*



(separate type) equipped with its patented Noise-Sentry original noise-suppression circuit and advanced algorithms. The LF470 is highly resistant to noise and provides a stable output even for fluids containing slurries. IR (Infrared) switches enable parameter setting of the converter without removing the cover. Flow direction can be set in either way, and its unique 128 x 128 dot matrix LCD display allows the LCD to be rotated electronically to be rotated to 90, 180 and 270 degrees without opening the cover

The AF900 hand-held terminal (HART* can be used to communicate with the flowmeter from a remote place. PROFIBUS-PA* as an option.

*1: Please refer to the document "TIC-LF232".

*2: HART protocol (Highway Addressable Remote Transducer) is a communication protocol for industrial sensors recommended by the HCF (HART Communication Foundation).

*3: PROFIBUS is the communication protocol for factory and process automation that the PROFIBUS Organization recommends. Instead of analog control with a conventional analog signal (4-20mA), it is the fieldbus which digitizes all signals. Flowmeters support PROFIBUS-PA.

Fluid to be measured
Signal cable
Excitation cable
LF470
Detector

Figure 1. Configuration Diagram
detector.Combined

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with
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communicator)
3
TOSHIBA
interface is available

Power supply
4-20mA dc output
and pulse output
LF612 or LF232
Converter
LF470

Figure 2. Electromagnetic Flowmeter

LF470/LF612

Certification number



Specifications

Overall Specifications

Measurement range in terms of flow velocity:
0-1.0ft/s to 0-32.8ft/s (0-0.3 m/s to 0-10 m/s)
Accuracy: The overall accuracy combined with the
LF612 or LF232 converter is shown in the
following table.

Flow rate as a
percent of range
(0.3-1.0m/s)

50 ~ 100 □
± 0.8% of FS
0 ~ 50 □
± 0.8% of FS

Note: The accuracy is measured under standard
operating conditions at Toshiba's calibration facility.

Fluid conductivity: 50µS/cm minimum

Fluid temperature:

Pipe connection material

Stainless steel and other metals
Polyvinyl chloride
(shock-resistant)

Ambient temperature: 14 to 140 °F (-10 to +60 °C)

Structure: IP67

Power consumption:

□When combined with the LF612 converter:
approximately 12W (20VA)

□When combined with the LF232 converter:
approximately 14W (25VA)

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LF470/LF612

1/10", 1/6", 1/4" (2.5, 4, 6mm)

LF612

Z01207

Accuracy

1.0-3.3ft/s

3.3-32.8ft/s

(1.0-10m/s)

± 0.8% of rate

± 0.4% of FS

Fluid temperature

14 to 248 °F

(-10°C~□120°C)

14 to 140 °F

(-10°C~□60°C)

TIC-LF470B



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Related Manuals for Toshiba Electromagnetic Flowmeter LF470/LF612

[Plumbing Product Toshiba LF470 Instruction Manual](#)

Electromagnetic flowmeter detector (40 pages)

[Measuring Instruments Toshiba Sanitary Electromagnetic Flowmeter TIC-LF494B User Manual](#)

Field intelligent device series sanitary electromagnetic flowmeter (17 pages)

[Measuring Instruments Toshiba LF470 Quick Start Manual](#)

Electromagnetic flowmeter field intelligent device (8 pages)

[Measuring Instruments Toshiba LF410 Manual](#)

Field intelligent device - mount-anywhere series - wafer electromagnetic flowmeter (15 pages)

[Measuring Instruments Toshiba LF434 /LF620 Manual](#)

Electromagnetic flowmeter (12 pages)

[Measuring Instruments Toshiba LF516 Instruction Manual](#)

Electromagnetic flowmeter capacitance type (157 pages)

[Measuring Instruments Toshiba LF232*F Series Instruction Manual](#)

Electromagnetic flowmeter for partially-filled pipes 6" to 24" (150 to 600 mm) (8 pages)

[Measuring Instruments Toshiba Electromagnetic Flowmeter Converter TIC-LF232A Product Manual](#)

Electromagnetic flowmeter converter (8 pages)

[Measuring Instruments Toshiba GF630 Manual](#)

Electromagnetic flowmeter (18 pages)

[Measuring Instruments Toshiba LF654 Instruction Manual](#)

Lf654 series electromagnetic flowmeter detector (51 pages)

[Measuring Instruments Toshiba GF642 Manual](#)

Electromagnetic flowmeter (11 pages)

[Measuring Instruments Toshiba LF620F Instruction Manual](#)

Electromagnetic flowmeter converter (162 pages)

[Measuring Instruments Toshiba LF620 B Series Instruction Manual](#)

Electromagnetic flowmeter converter (167 pages)

[Measuring Instruments Toshiba RD-97DTKB Owner's Manual](#)

Hdd & dvd video recorder (96 pages)

[Measuring Instruments Toshiba LF622 Quick Start Manual](#)

Magmeter (13 pages)

[Measuring Instruments Toshiba LQ500 Installation Manual](#)

Density (consistency) meter (13 pages)

Summary of Contents for Toshiba Electromagnetic Flowmeter LF470/LF612

[Page 1: Specifications](#)

Flow rate as a interface is available percent of range 50 ~ 100 □ Note: The accuracy is measured under standard operating conditions at Toshiba's calibration facility. Fluid

conductivity: 50μS/cm minimum Fluid temperature: Pipe connection material Stainless steel and other metals...

[Page 2](#) TIC-LF470B Model LF470 Detectors Fluid pressure: - 15 to 150 psi, or - 1.0 to 10 bar (-0.1 to 1 MPa) Principal materials: Measurement tube - Alumina ceramics Electrodes - Platinum Pipe connection port: Standard - 316 stainless steel Option - Ti (titanium), Polyvinyl chloride (shock-resistant)+ Ta (Tantalum) for grounding plate, Polyvinyl chloride (shock-resistant)+...

[Page 3](#) Mag-Prover "Field re-verification" Zero span calibration tool allows unit to be re-calibrated and verified using an internal software program. (For more information contact Toshiba International Corp.) Conditions when power fails: Parameter setting values are stored in non-volatile memory and the values will be restored when the power returns to normal condition.

[Page 4: Installation](#)

TIC-LF470B Installation Dimensions 2.20(56) Signal cable Excitation cable φ0.28(φ7) φ0.28 (φ7) This length becomes 78mm if the pipe connection port thread is Rc(PT)1/2 and Rc(PT)3/4. 2-M4 (Mounting screw holes) Figure3. LF470 Dimensions 4 -φ0.43(φ11) 4φ 11 5.94(151) Attachment □□□□ 2.91(74) 74 ±0.3 IR Switch □□□□□□...

[Page 5](#) Separate type LF470/LF612 flowmeter Terminal board Thick walled steel conduit Signal cable (2-wire shielded hard-rubber sheathed cable) Connected detector Excitation cable (3-wire shielded hard-rubber cable) Figure 6. Separate type LF470/LF612 flowmeters wiring Diagram Symbol L1 (□) L2 (□) □ □ Power cable Digital input cable (CVV)

[Page 6: Ordering Information](#)

Flow calibration data: (required or not) 6. Other items Unit:L/min Specifications other than standard items 3m/s 10m/s 0.884 2.945 Consult a Toshiba representative before ordering when 2.262 7.540 choosing materials of the wetted parts such as lining, 5.090 16.967 electrodes, and grounding rings.

[Page 7](#) Table 4. Specification Code (LF470 Detector) Model Specification Code 1 2 3 4 5 6 7 8 9 10 11 12 13 14 L F 4 7 0 Note 1: Please refer to document number "TIC-LF232" about converter LF232. Description LF470 Flowmeter Meter size...

[Page 8](#) PROFIBUS communication (Current output is not usable) Power supply 100Vac-240Vac, 50/60Hz 24Vdc 110Vdc Instruction manual English : Standard : Option Contents Specifications are subject to change without notice. Printed in Japan 2008-5 (TDOC) © TOSHIBA Corporation 2008 All Rights Reserved. <http://www.toshiba.com/ind/> LF612 type...

This manual is also suitable for:

[Lf470Lf612](#)