



Toshiba LF232*F Series Instruction Manual

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

1
2
3
4
5
6
7
8

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[Table of Contents](#)

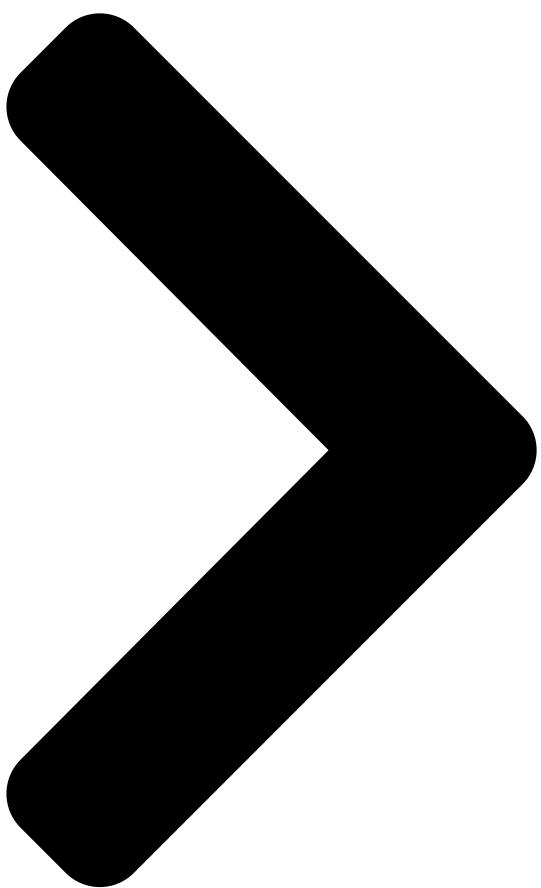
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Electromagnetic Flowmeter for Partially-filled Pipes

TOSHIBA Introduction

The LF502 electromagnetic flowmeter uses Faraday's Law of electromagnetic induction in the same way as conventional electromagnetic flowmeters to measure the flow rate. Position of electrodes in the LF502 is so designed that it can be used even in a partially-filled pipe to measure the flow rate.

Improved functional magnetic field distribution technique enables a high-precision flow measurement continually from low-level to fully-filled flow



TOSHIBA

iment stay at the bottom of the detector pipe

Signal cable

Detector

Excitation cable

Figure 1. LF502/LF232*F Configuration

1

Converter

Power supply

4-20 mA dc

Digital I/O

LF502/LF232*F

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LF502

Figure 2. LF502 Electromagnetic Flowmeter for Partially-filled Pipes

Specifications



Overall Specifications

Measurement range:

Meter size

0 - 264 GPM(std) to 0 - 1320 GPM

6" (150mm)

0 - 484 GPM(std) to 0 - 2420 GPM

8" (200mm)

0 - 770 GPM(std) to 0 - 3850 GPM

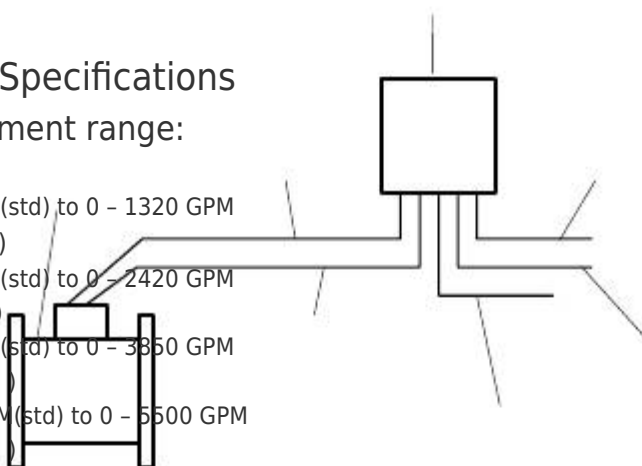
10" (250mm)

0 - 1100 GPM(std) to 0 - 5500 GPM

12" (300mm)

0 - 1540 GPM(std) to 0 - 7700 GPM

14" (350mm)



16.4 ft/s (0 - 1 m/s to 0 - 5 m/s) flow velocity.

Fluid-level range:

fully-filled condition.

Note: The fully-filled condition means a 100% of inside tube diameter.

Accuracy: $\pm 2\%$ FS (when measurement range is standard)

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

6" to 24"

150

600

(

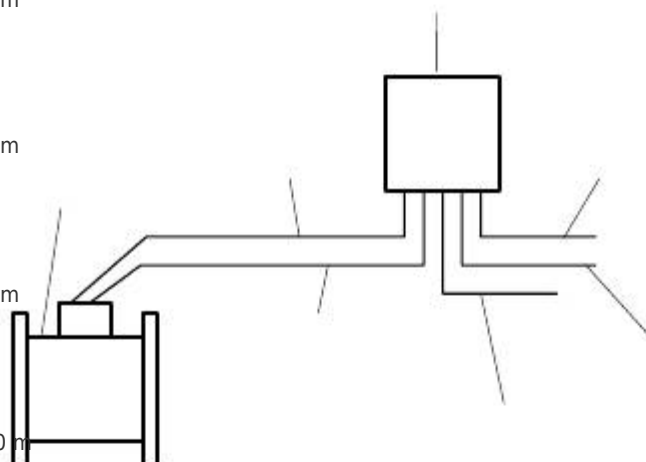
to

mm

LF232*F

Measurement range

3



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[illegible]

(0 - 350 m
/h to 0 - 1750 m
3

(0 - 450 m
/h to 0 - 2250 m
3

(0 - 710 m
/h to 0 - 3550 m
3

/h to 0 - 5000 m
Specification

TIC-LF502A
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[Table of Contents](#)

[Next Page](#)

1
2
3
4
5

Related Manuals for Toshiba LF232*F Series

[Measuring Instruments Toshiba LF410 Manual](#)

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

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

Electromagnetic flowmeter field intelligent device (8 pages)

[Measuring Instruments Toshiba Electromagnetic Flowmeter LF470/LF612 Specification Sheet](#)

Electromagnetic flowmeter (8 pages)

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

Electromagnetic flowmeter (12 pages)

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

Field intelligent device series sanitary electromagnetic flowmeter (17 pages)

[Measuring Instruments Toshiba LF516 Instruction Manual](#)

Electromagnetic flowmeter capacitance type (157 pages)

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

Electromagnetic flowmeter converter (8 pages)

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

Magmeter (13 pages)

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

Electromagnetic flowmeter converter (167 pages)

[Measuring Instruments Toshiba LF654 Instruction Manual](#)

Lf654 series electromagnetic flowmeter detector (51 pages)

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

Hdd & dvd video recorder (96 pages)

[Measuring Instruments Toshiba GF630 Manual](#)

Electromagnetic flowmeter (18 pages)

[Measuring Instruments Toshiba GF642 Manual](#)

Electromagnetic flowmeter (11 pages)

[Measuring Instruments Toshiba LF620F Instruction Manual](#)

Electromagnetic flowmeter converter (162 pages)

[Measuring Instruments Toshiba LQ500 Installation Manual](#)

Density (consistency) meter (13 pages)

[Measuring Instruments Toshiba LQ500B Operation Manual](#)

Density meter (124 pages)

Summary of Contents for Toshiba LF232*F Series

[Page 1: Specifications](#)

Transducer) is a communication protocol for industrial sensors recommended by the HCF (HART Communication Foundation). Converter Signal cable Detector Excitation cable Digital I/O Figure 1. LF502/LF232*F Configuration Figure 2. LF502 Electromagnetic Flowmeter Specifications ■

Overall Specifications Measurement range: Meter size 6" (150mm) 8"...

[Page 2](#) Cable glands: Provided as standard, R(PT) 1/2 male screw. Applicable diameter: 0.433 to 0.512 inch (11 to 13mm) ■ Model LF232*F converter Input signals Analog signal — the voltage signal from detector, proportional to process flow rate. Digital input DI (opt.)

[Page 3](#) 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 The output and display will stay as follows when power fails..

[Page 4: Installation](#)

TIC-LF502A Installation ■ Dimensions Separate type LF502 (Meter size 6" and 8") 3.46 (88) 1.42 (36) 1.57 (40) Figure 3. Detector Dimensions for Meter Sizes 6" (150 mm) and 8" (200 mm) See the following tables for dimensions of L1, L2 and L3 in Figure 3 above, and the number of bolts required for each flange.

[Page 5](#) ■ Dimensions 9.33 (237) 8.74 (222) 2.91 (74) Signal cable ground Output cable ground Grounding terminal 2.99 (76) 2.99 (76) 2.99 (76) Excitation cable ground 4-φ12 hole 6.10 (155) Power supply cable ground I/O cable ground Weight : Approximately 18 lb (8 kg) (including a mounting bracket) Figure 5.

[Page 6: Wiring Precautions](#)

Thick walled steel conduit Detector Signal cable (2-wire shielded hard-rubber sheathed cable) (3-wire hard-rubber sheathed cable) Figure 6. LF502/LF232*F flowmeter Wiring Diagram ■ Wiring Precautions (1) Be sure to use thick walled steel conduit (22 mm) for signal and excitation cable wiring between the detector and converter.

[Page 7: Piping Precautions](#)

■ Piping Precautions (1) Flange connection The flowmeter has upstream and downstream flanges on the ends of detector pipe. Connect these flanges with the flanges on both sides of pipeline bore using connection bolts after inserting a gasket between them. See Figure 7. Tighten the bolts in even increments diagonally across.

[Page 8](#) Size groups A : 6" (150mm) to 16" (400mm) B : 20" (500mm) and 24" (600mm) Table 2. Specification Code for LF232*F converter Model Specification Code 1 2 3 4 5 6 7 8 9 10 11 12...

This manual is also suitable for:

Lf502*f series