



## FR-LW20L

Long-range sensor main unit 2-wire standard model



\*Please note that accessories depicted in the image are for illustrative purposes only and may not be included with the product.

## Specifications

Model		FR-LW20L
Type		2-wire standard model
Measuring range		Up to 15 m <b>49.2</b> <sup>*1</sup>
Display range		Up to 25 m <b>82.0</b> <sup>*1</sup>
Measurable dielectric constant of medium		2 or more <sup>*2</sup>
Resolution		1 mm <b>0.04</b> "
Precision		Up to 0.1 m <b>0.3'</b> : ±10 mm <b>0.39</b> "; 0.1 to 10 m <b>0.3' to 32.8'</b> : ±1 mm <b>0.04</b> "; 10 to 20 m <b>32.8' to 65.6'</b> : ±2 mm <b>0.08</b> " <sup>*3</sup>
Response time		1 s, 4 s (default value), 10 s, 25 s
Tank pressure		-0.1 to +1 MPa (-0.1 to +0.1 MPa below -20°C <b>-4°F</b> )
Material	Tank interior	Lens: PTFE; Internal seal: FKM; Fastener: SUS304
	Housing	PPS PC PA
Connection diameter		G1-1/2 (40A)
Output	No. of control outputs	1
	Control output/auxiliary output	Transistor output (NPN open collector) Common independent type 35 VDC or less, 50 mA max. Residual voltage of 4.0 V or less (50 mA or less) N.O./N.C. switching
	Analog output	4 to 20 mA (Response time: 3 s after internal value is confirmed [90% response])
Analog output accuracy	Resolution	1 mm <b>0.04</b> " <sup>*4</sup>
	Zero accuracy	±0.1 mA (zero point = 4 mA) <sup>*4</sup>
	F.S. accuracy	±0.2 mA (full scale = 20 mA) <sup>*4</sup>
Power supply	Power voltage	18.3 to 35 VDC.
	Power consumption	752.5 mW or less (including analog output; excluding load current)
Environmental resistance	Ambient temperature	-30 to +60°C <b>-22 to 140°F</b> (no freezing)
	Relative humidity	Up to 85% RH (no condensation)
	Temperature of coupling used	-30 to +85°C <b>-22 to 185°F</b> (no freezing)
	Vibration resistance	10 to 500 Hz; Power spectral density: 0.816 G <sup>2</sup> X, Y and Z directions
	Shock resistance	100 m/s <sup>2</sup> (10 G), 16 ms pulses, 1000 times each in X, Y and Z directions
Enclosure rating		IP67 (IEC60529), Enclosure Type 4X (NEMA250)
Protection circuit		Reverse power connection protection, power supply surge protection, output short-circuit protection, output surge protection
Weight		Approx. 920 g <b>32.45 oz</b>

<sup>\*1</sup> Guaranteed value in water with the recommended installation. In still water, measurement is possible with water up to the edge of the lens. An undetectable area is present at short range due to the environment and measurement medium. The maximum measuring range is also reduced.

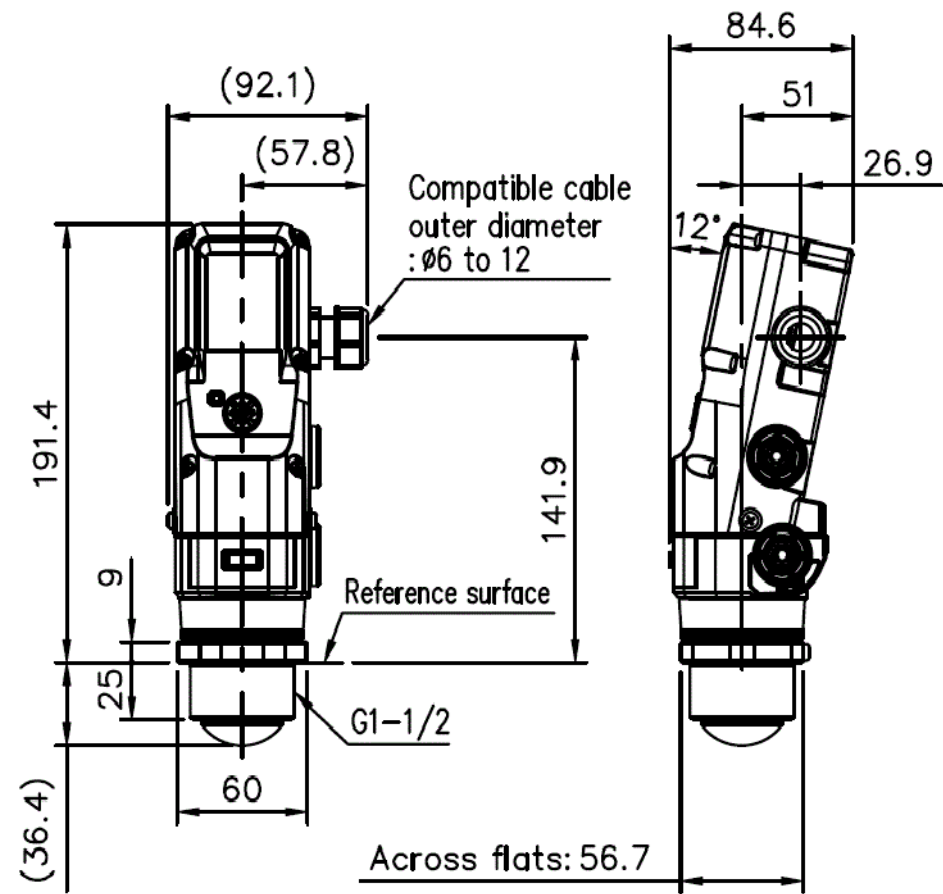
\*2 Measurement may not be possible depending on the environment and shape of the target.  
\*3 Guaranteed value from verification performed at KEYENCE inspection facilities. Measurement errors may occur depending on the customer's environment.  
\*4 Guaranteed value from verification performed at KEYENCE inspection facilities with a load resistance of 250 Ω. Measurement errors may occur depending on the customer's environment.

Dimensions

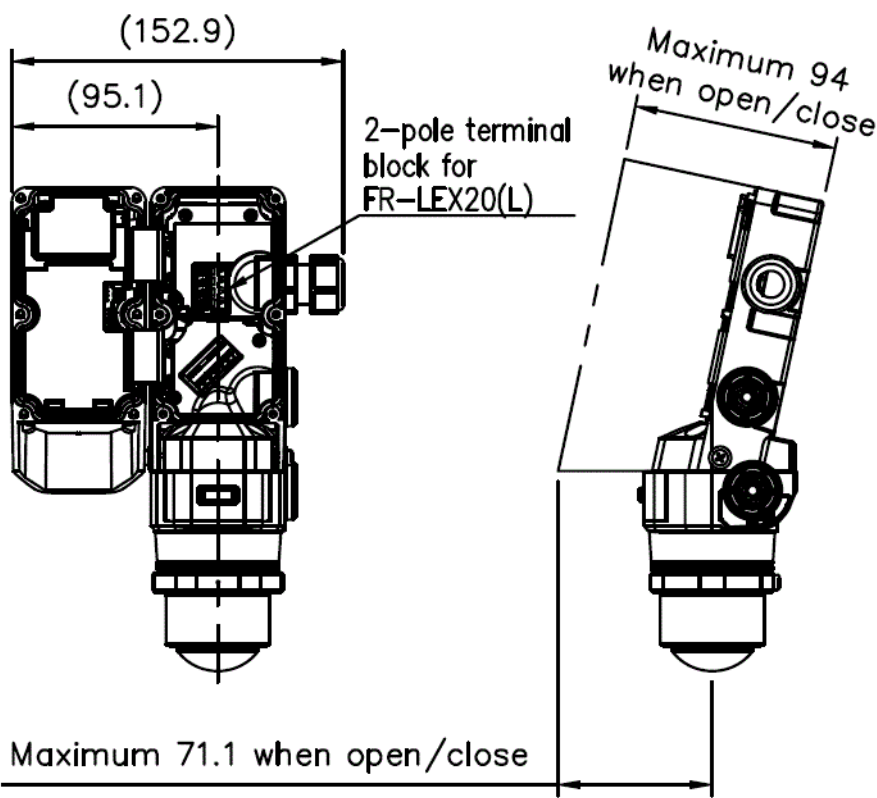
\* Download CAD file or product manual for larger image/text and more detail.

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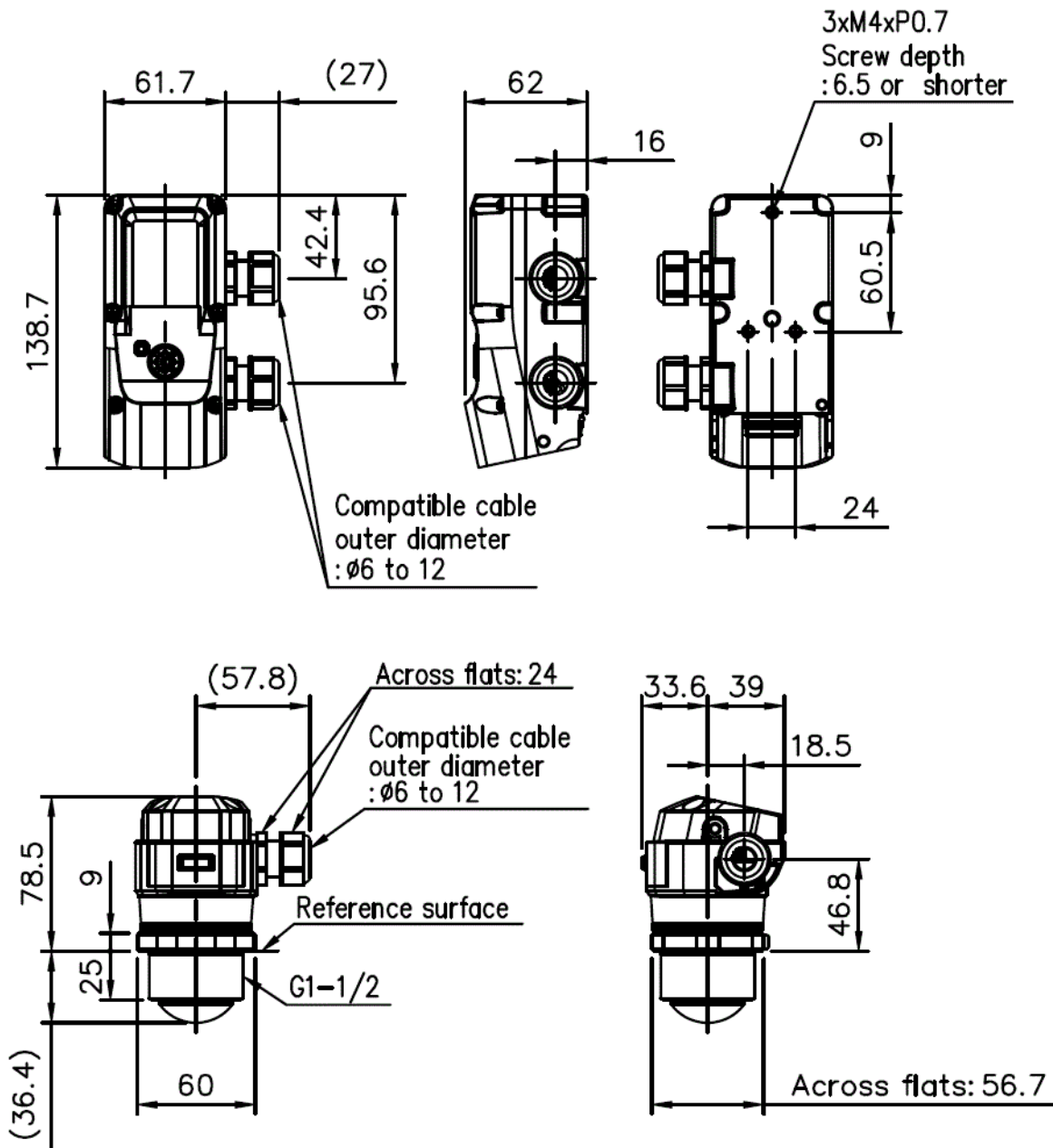
When using the integrated display



When display unit is open



When using the display as separated



When display unit is open

