



mm FDRF603 Series

Laser displacement sensors are used for non contact measurement of displacement, speed, acceleration, vibrations, deformation and profiles in static and dynamic applications in the research and industry to improve quality and save costs. The measurement ranges vary from 2mm up to 1250mm. And with blind ranges from 15mm up to 260mm you can mount the sensor at a save distance from the moving target.

Due to the non contact measurement, you can avoid force on the target and wear of both target and sensor surfaces. Because the laser spot does not have mass, it will follow the target at target speed.

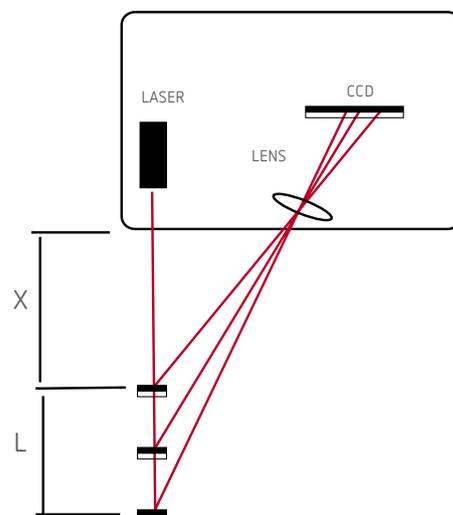


Features

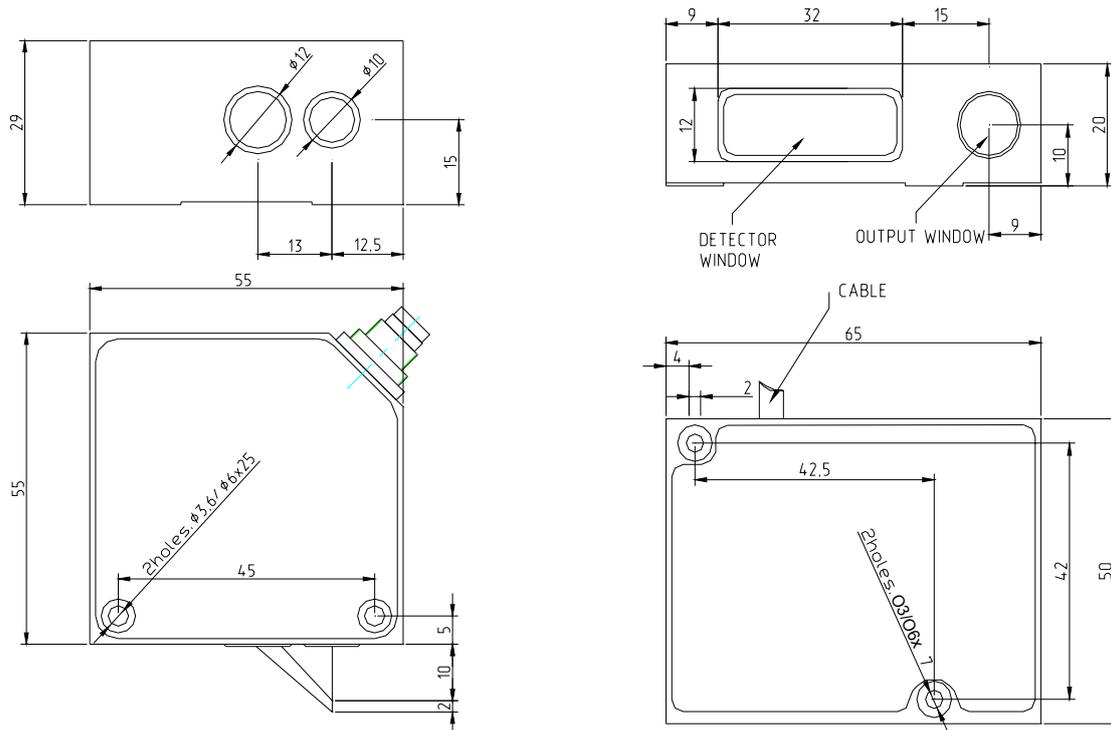
- Save distance to target
- Non contact
- Non wear
- Non force
- Fast, non mass laser spot

Specifications

RF603-	R-X/4	X/2	X/5	X/10	X/15	X/25	X/30	X/50	X/100	X/250	X/500	X/750	X/1000	X/1250
Base distance X, mm	39	15	15	15, 25, 60	15, 30, 65	25, 45, 80	35, 55, 95	45, 65, 105	60, 90, 140	80	125	145	245	260
Measurement range, mm	4	2	5	10	15	25	30	50	100	250	500	750	1000	1250
Linearity, %	±0.05 of the range												±0.1	
Resolution, %	0.01 of the range (for the digital output only)												0.02	
Temperature drift	0.02% of the range/°C													
Max. measurement frequency	9.4 kHz													
Light source	red semiconductor laser (660 nm w avelength) or UV semiconductor laser (450 nm or 405 nm wavelength, BLUE version)													
Model	RF603													
Output power	≤0,2	≤5 mW												
Laser safety class	1	3R (IEC60825-1)												
Model	RF603L													
Output power	≤0,95 mW													
Laser safety class	2 (IEC60825-1)													
Model													RF603P	
Output power													≤20 mW	
Laser safety class													3B (IEC60825-1)	
Output interface:														
Digital № 1	RS232 or RS485 (max. 921600 baud)													
Digital № 2 (optional)	Ethernet (max. 100 Mbit) or CAN V2.0B (max. 1 Mbit)													
Analog	4...20 mA (load ≤ 500 Ohm) or 0...10 V													
Synchronization input	2,4 – 24 V													
Logic output	programmed functions, NPN: 100 mA max; 40 V max for output													
Power supply	9...36 V													
Power consumption	1,5...2 W													
Environmental resistance:														
Enclosure rating	IP67 (only for sensors with a connector on the housing)													
Vibration	20 g /10...1000 Hz, 6 hours for each of XYZ axes													
Shock	30 g / 6 ms													
Operating ambient temperature	-10...+60°C, (-30...+60°C for the sensors with in-built heater), (-30...+120°C for the sensors with in-built heater and air cooling housing)													
Permissible ambient light, lx	10000 – RF603L, 30000 – RF603, >30000 – RF603P													
Relative humidity	5-95% (no condensation)													
Storage temperature	-20...+70°C													
Housing material	aluminum													
Weight (w ithout cable)	100 gram													



Note: RF603-R-39/4 sensor is designed to use with mirror surfaces and glass.



■ Ordering information

RF603(BLUE)(L/P).F-X/D(R)-SERIAL-ANALOG-IN-AL-CC(90X)(R)-M-H-P-B

Symbol	Description
(BLUE)	Blue (405/450 nm) laser option
L/P	Laser safety class: L - Class 2, P - Class 3B
F	Max. measurement frequency, kHz (2 or 10)
X	Base distance (beginning of the range), mm
D	Measurement range, mm
(R)	Round shape laser spot
SERIAL	The type of serial interface: 232 (RS232) or 485 (RS485); CAN or ET (Ethernet)
ANALOG	Attribute showing the presence of 4...20 mA (I) or 0...10 V (U)
IN	Trigger input (input of synchronization) presence
AL	User programmed input/output signal
CC(90X)(R)	Cable gland - CG, or cable connector - CC (Binder 712, IP67) Note 1: sensors with CAN or Ethernet interfaces have 2 connectors or two cable glands. Note 2: 90(X) option – angle cable connector Note 3: R option – robot cable
M	Cable length, m
H	Sensor with in-built heater
P	Sensor with protective air cooling housing
B	Sensor with spray guard

Example: RF603L.140/100R-232-I-IN-AL-24-CCR90A-3 – Class 2 laser, base distance – 140 mm, range – 100mm, round shape laser spot, RS232 serial port, 4...20 mA analog output, trigger input and AL input are available, cable connector, angle type, position "A", robot cable, 3 m cable length.