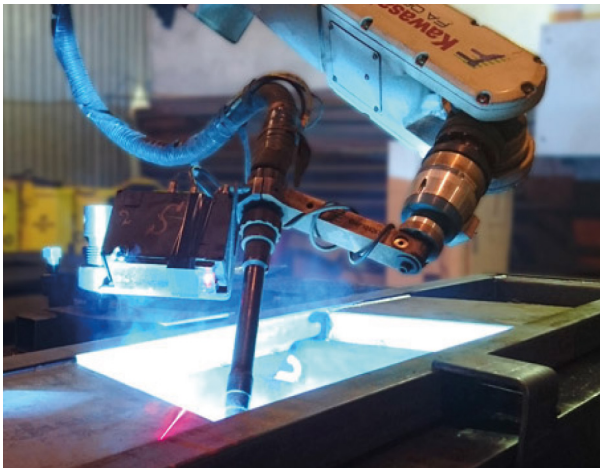
mm

FDRF627 SMART-WELD SERIES

Laser profilers for welding robots



FEATURES

- RF627Smart-Weld – laser profilers with direct connection to the robot controller
- Real-time recognition, tracking, and measurement
- Works with all surfaces, including shiny ones
- Connection to all common robot controllers

Laser Profilers RF627Smart-Weld Series. Working ranges					
Range	SMR, mm	MR, mm	Xsmr, mm	Xemr, mm	Laser
65/25-20/22	25	65	20	22	Class 2M
70/50-30/41	50	70	30	41	
76/100-48/82	100	76	48	82	
70/130-40/86	130	70	40	86	
250/130-52/76	130	250	52	76	
82/200-60/150	200	82	60	150	
90/250-65/180	250	90	65	180	
For the rest parameters — see RF627Smart Series					

SPECIFICATION

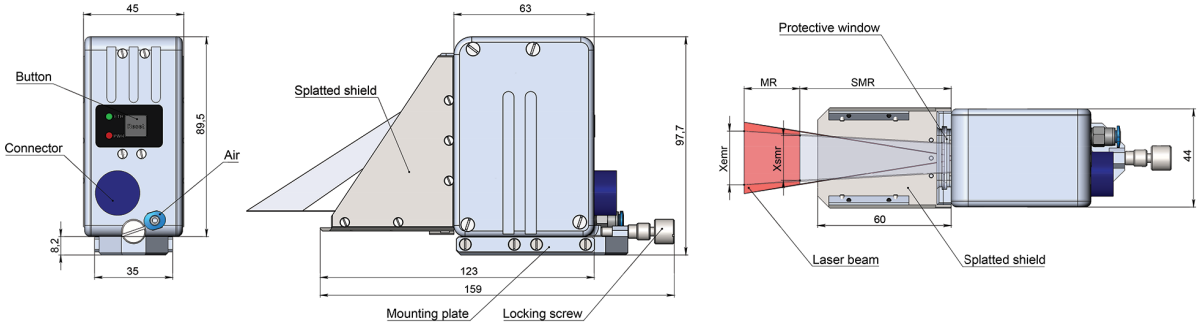
Sampling rate, accuracy, resolution	
Nominal sampling rate (full working range)	520 profiles/s
Maximum sampling rate (ROI mode)	4200 profiles/s,
Linearity (measurement error), Z axis	±0.01% of the range[1]
Resolution, X axis	728 or 1456 points (programmable value)
Laser	
660 nm or 450 nm or 405 nm Class 2M according to IEC/EN 60825-1:2014	
Interface	
Basic	Ethernet / 1000 Mbps
Synchronization inputs	RS422, 3 channels
Power supply	9...30 V or 12...36 V for scanners with Blue laser
Power consumption, not more	6 W (without a built-in heater)
Environmental resistance	
Enclosure rating	IP67
Vibration	20 g / 10...1000 Hz, 6 hours for each of XYZ axes
Shock	30 g / 6 ms
Operating ambient temperature	-20... +40°C or -20... +80°C for scanners with built-in air cooling system -20...+150°C for scanners with built-in water cooling system
Storage temperature	-20... +70°C
Relative humidity	5-95% (no condensation)
Housing/windows material	aluminum/glass
Replaceable protective windows	glass

Note: № linearity for height measurement across the entire field of view of the scanner.

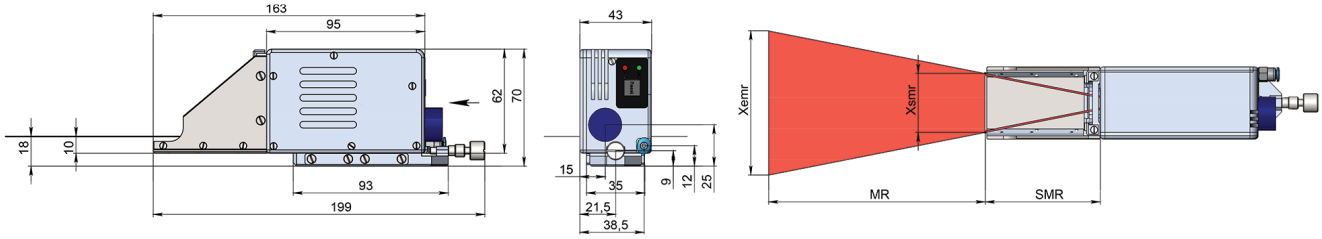
Version | 02.2026

DIMENSIONS

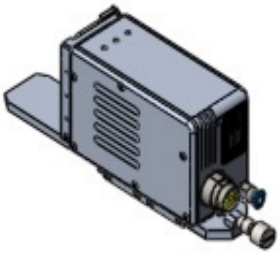
FDRF627Smart-Weld-68/25-20/22 и RF627Smart-Weld-90/250-65/180



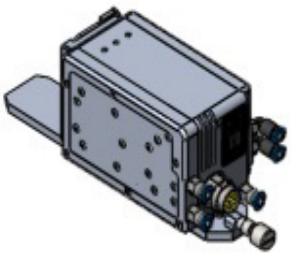
FDRF627Smart-Weld-70/130-40/86



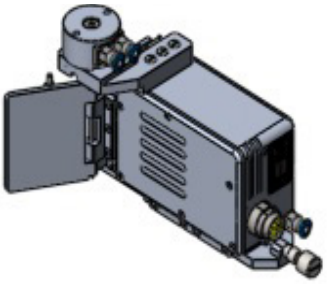
FDRF627SMART-WELD CONFIGURATIONS



Profiler for welding robot



Profiler for welding robot with cooling



Profiler for welding robot with protective shutter

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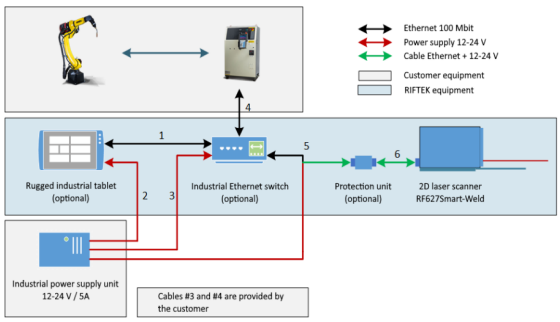
HOW IT WORKS

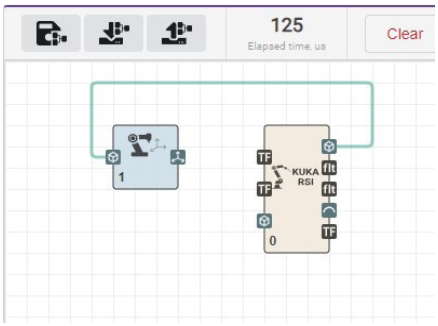
STEP 1

Connect the equipment according to the functional diagram:



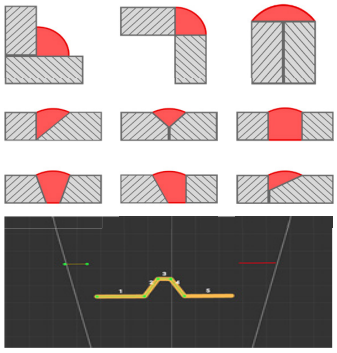
STEP 2

Calibrate the profiler relative to the robot.



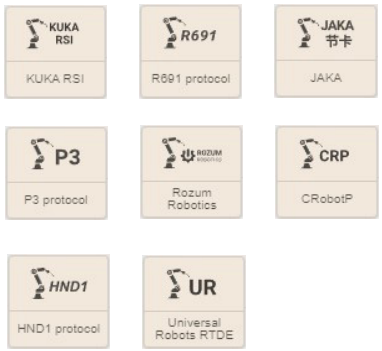
STEP 3

Using the profiler web interface, create a computation graph from the library of ready-made blocks, taking into account the features of the equipment, namely:



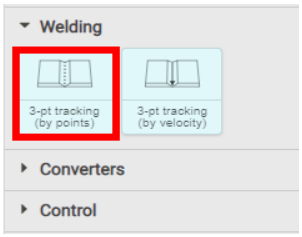
Select a tracking template or create your own using the template editor.

STEP 3.1



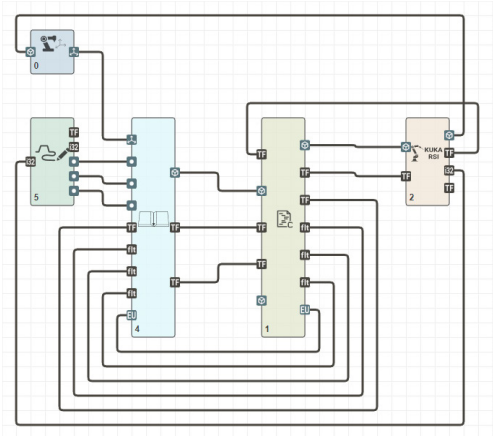
Select a Smart-block of the robot communication protocol.

STEP 3.2



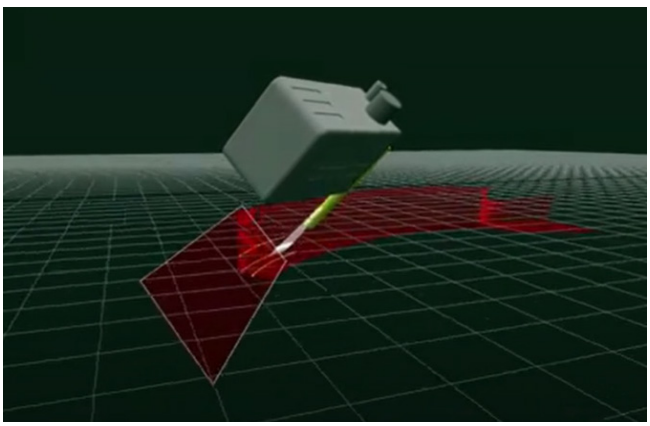
Select a Smart-block for the type of tracking:
1. Output values of the smart block – points and angles to which the actuator should move.
2. Output values of the smart-block – linear and angular velocities with which the actuator should move.

STEP 3.3



Add and configure the Smart block for script execution. Complete the construction of the tracking graph.

STEP 4 START WORKING



Observe the process on the computer screen.

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