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You can read the recommendations in the user guide, the technical guide or the installation guide for KEYENCE FS-V22R. You'll find the answers to all your questions on the KEYENCE FS-V22R in the user manual (information, specifications, safety advice, size, accessories, etc.). Detailed instructions for use are in the User's Guide.

User manual KEYENCE FS-V22R User guide KEYENCE FS-V22R Operating instructions KEYENCE FS-V22R Instructions for use KEYENCE FS-V22R Instruction manual KEYENCE FS-V22R



1. Safety Precautions

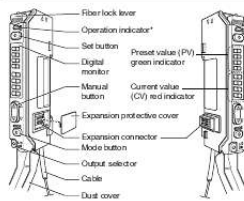
WARNING

- This product is used to detect targets. Do not apply the product to safety circuits for human protection.
- This product is not of explosion-proof construction. Do not use the products in places with flammable gas, liquid, or dust.
- This product is a sensor or DC power supply type. Do not apply AC power. The product may explode or burn if 150 VAC or a higher voltage is applied.

Check that all the accessories are ready before use:

- Accessories: instruction manual (x1), End units (x2), Expansion Slider (x1)

2. Part Names



* The operation indicator of the FS-V22X (infrared model) will not be lit.

3. Amplifier Expansion

Up to 16 sub units can be connected to each main unit.

- Remove the expansion protective cover from the main unit.

- Mount each amplifier to the DIN rail.

- Press the two claws of each sub unit to the grooves on the main unit until the claws snap.

- Mount the end units to the left- and right-hand sides of the whole amplifiers in the method shown in the figure at step 2.

- Check that the amplifiers are securely sandwiched by the end units. Use a Phillips screwdriver and securely tighten the screws on the end units (i.e., two screws on each end unit).

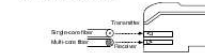
4. Connecting Fiber Unit

- Open the dust cover in the direction shown by arrow (1).
- Move down the fiber lock lever in the direction shown by arrow (2).
- Insert a fiber unit into the fiber insertion holes to a length of the fiber insertion edge (i.e., approximately 1/4 mm).
- Move up and return the fiber lock lever in the direction shown by arrow (3).

Note: If a thin fiber unit is used, an adapter provided with the thin fiber unit will be required. Unless the right adapter is connected, the thin fiber unit will not detect far goals correctly.

Cable outer dia.	Adapter	Appearance
ø1.3	Adapter A	
ø1.0	Adapter B	

- To connect the coaxial reflective type fiber unit to the amplifier, connect the single core fiber to the transmitter side, and connect the multiple core fiber to the receiver side.



- To remove the amplifiers added, take the steps opposite to the mounting procedure.
- Put the provided slider slide to the sensor.

Note: The FS-V22G/22R(P)/22X incorporates an mutual interference prevention function, thus allowing the close mounting of a number of fiber units in the following modes.

Power mode	TRIPLE	TURBO	SUPER TURBO	ULTRA TURBO
Number of units connected	1	8	8	8

5. I/O Circuit

Refer to the following I/O circuit diagram when connecting the unit to peripheral devices.

- FS-V22G/22R/22X
- FS-V22RP



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Manual abstract:

flash when the settings are completed. **G Positioning Calibration** In this mode, a workpiece will be detected when the front edge of the workpiece has reached a preset position. 1) Press the set button for a moment without the workpiece in the sensing area (i.e., in front of the fiber unit). Workpiece · When the setting is finished, the digital monitor will display the PV in green. PV (green) **G Two-point Calibration** In this mode, the PV used will be the mean value of two sensing values obtained with and without a workpiece. 1) Press the set button for a moment without the workpiece in the sensing area (i.e., in front of the fiber unit).

Workpiece 2) Locate the workpiece in the sensing area (i.e., in front of the fiber unit). Then press the set button for a moment. Workpiece CV (red) The display will be lit when the workpiece is detected.

2) Locate the front edge of the workpiece in the sensing area. Then press the set button for a minimum of three seconds. Workpiece Front edge 3 s min. The display will flash for a moment when the setting is finished. Then the PV will be displayed.

7. **Selecting Output** The display will be lit when the workpiece is detected. Either light-ON mode or dark-ON mode is selectable. Press the mode button. * If there is extremely little difference in sensitivity between the sensing values, the display will flash on completion of tuning. **G Maximum Sensitivity Setting** If the sensing performance of the sensor drops due to dust or dirt, set the sensitivity of the sensor to maximum. 1) Press the set button without a workpiece if the fiber unit is a reflective model. Press the set button with a workpiece if the fiber unit is a through-beam model. In both cases, press the set button for a minimum of three seconds. "Reflective model" "Through-beam model" 3 s min.

The display will flash for a moment when the setting is finished. Then the PV will be displayed. * If the sensing distance is insufficient, make sensitivity settings in the sensor in two-point tuning mode. Workpiece The PV will appear when the settings are completed. The display indicates that the sensor is in dark-ON mode. The CV will be displayed if no buttons are operated for approximately five seconds. Press the manual button within five seconds after pressing the mode button. · Take the same steps to set the sensor to light-ON mode again. 8. **User-friendly Functions** **G Access Mode Selection** Two modes are available to the display of values and menu items.

EASY FULL Only basic functions are displayed. All available functions are displayed. Press 3 s min. Select Completion of selection Press 3 s min. **EASY FULL** · The mode is set to EASY before shipping.

2 q **Display Selection (Access Mode: EASY) PV CV q Menu Selection (Access Mode: FULL)** Press Press Press Access mode selection Press the mode button 3 s min Normal operation use Power mode selection Press FINE Used if the sensing distance is insufficient TURBO while the sensor is in fine mode. Used if the sensing environment is SUPER TURBO bad due to dust or other obstacles. Used if the incident is insufficient while ULTRA TURBO the sensor is in SUPER TURBO mode. Used to detect sensing objects HIGH SPEED moving at high speed. Used to detect delicate differences HIGH RESO- within a short sensing distance.

LUTION Timer OFF (for normal operation use) OFF-delay timer ON-delay timer One-shot timer Excess gain CV Output Power status mode status · The current value will be displayed if no keys are operated for approximately 30 s. · If the timer function is set, the output status with power mode and the timer mode with set time will be displayed alternately. · The CV is displayed in percent based on the PV. Select Press q **Display Selection (Access Mode: FULL) PV CV Timer function setting Select Press Press Press Other than Excess gain Output status CV Power mode status Press Power mode , S-APC mode setting Press Other than Power mode , Timer adjustments Timer adjustment range 1~30ms 1-ms increments 30~50ms 2-ms increments 50~200ms 10-ms increments 200~500ms 50-ms increments * A maximum error of $\pm 10\%$ of the PV. OFF (for normal operation use) Used to detect sensing objects highly precisely under clean environments..**



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