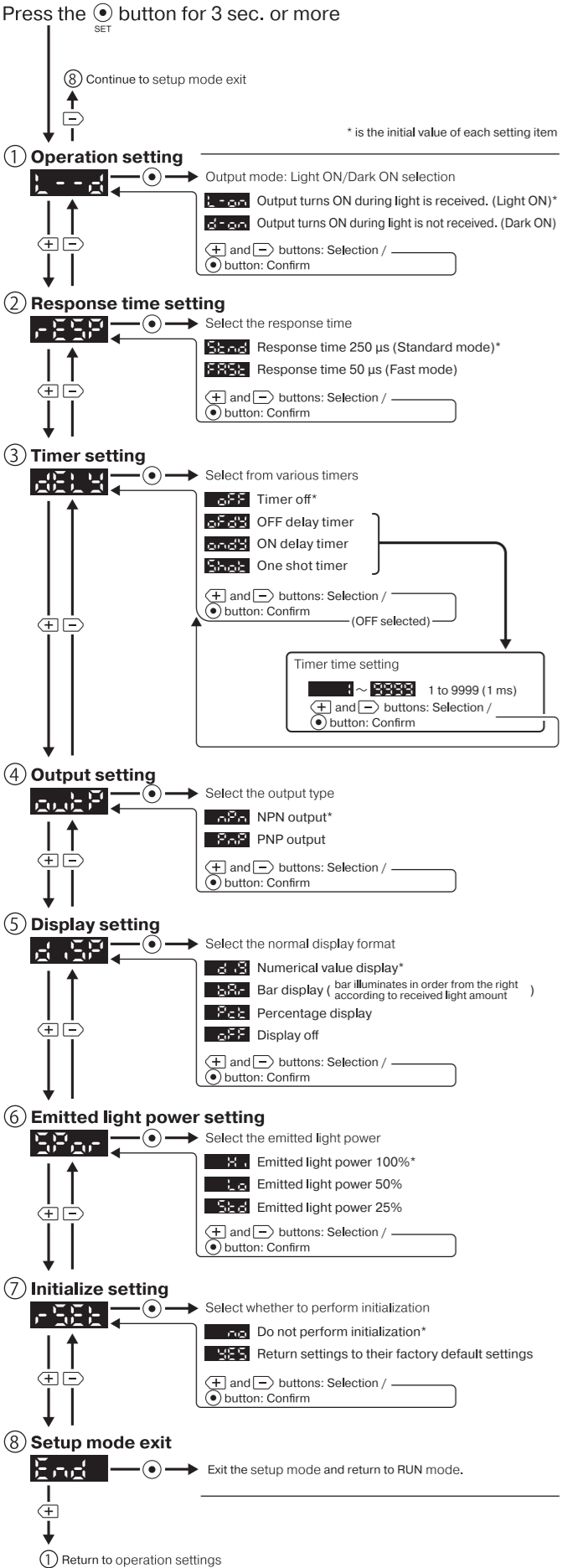
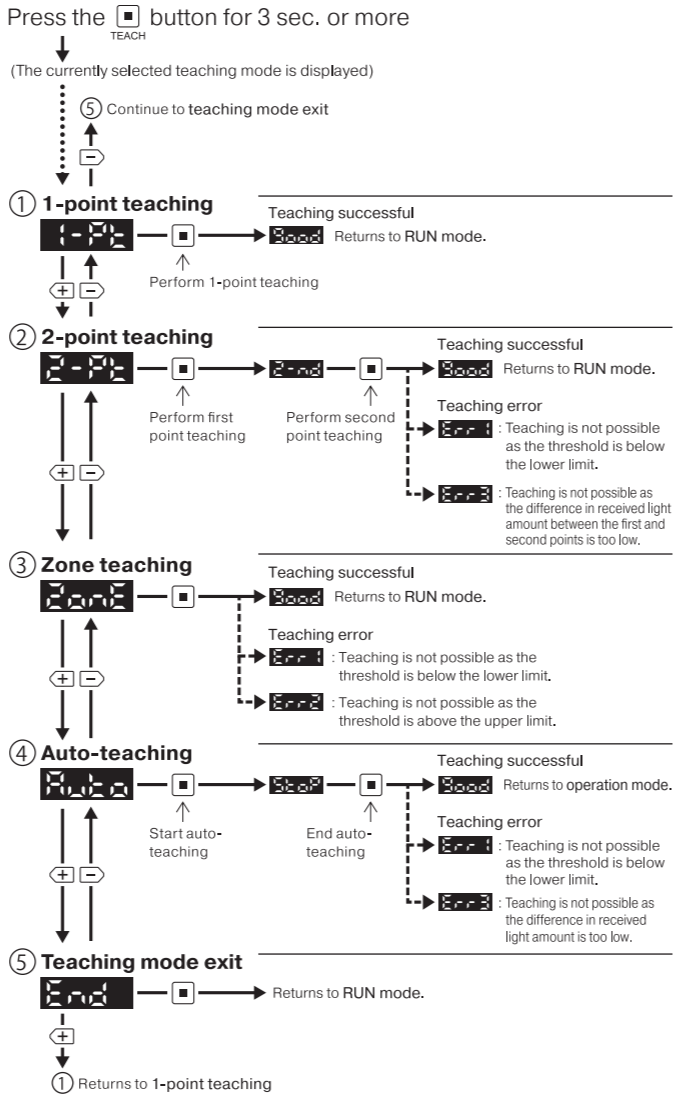


9. Menu List

Setup mode



Teaching mode



10. Convenient Functions

Initialize settings

All settings are returned to their factory default settings.

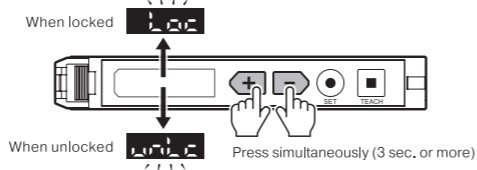
- Press the **SET** button for 3 sec. or more to enter setup mode.
- Press the **←** button twice to display **YES**, and confirm with the **Enter** button.
- Display **YES** with the **←** button, and perform initialization with the **Enter** button.
- Press the **TEACH** button for 3 sec. or more to return to normal mode.

* "Output setting" is not changed even if initialization is performed.

Prevent misoperation (key lock)

Disable key operation to prevent misoperation, etc.

While in normal mode, press the **←** buttons simultaneously for 3 sec. or more. Key lock is canceled by performing the same operation.

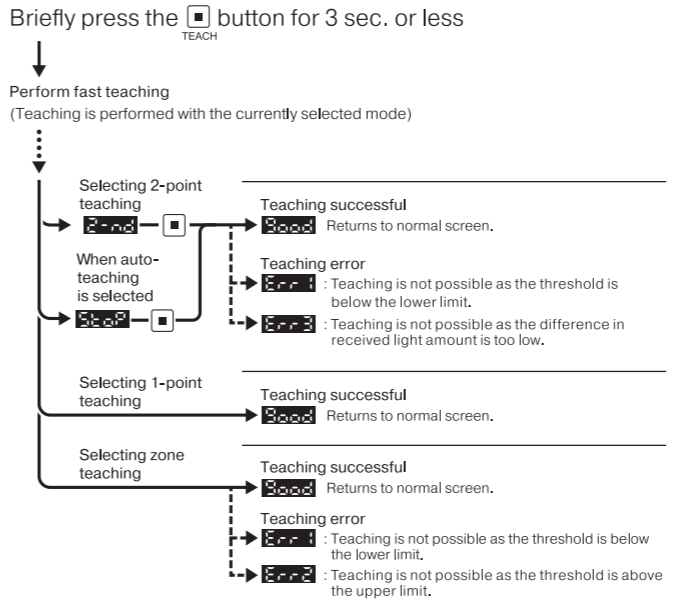


Display received light amount percentage

Sets the display as a percentage.

- Press the **SET** button for 3 sec. or more to enter setup mode.
- Press the **←** button four times to display **PER**, and confirm with the **Enter** button.
- Display **PER** with the **←** button, and set the percentage display with the **Enter** button.
- Press the **TEACH** button for 3 sec. or more to return to normal mode.

On the spot teaching (fast teaching)

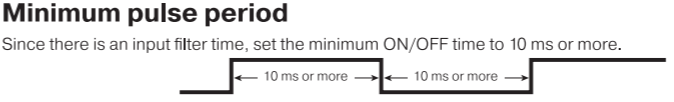
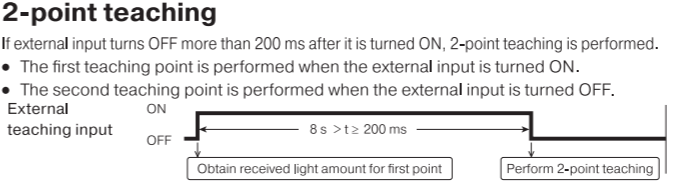
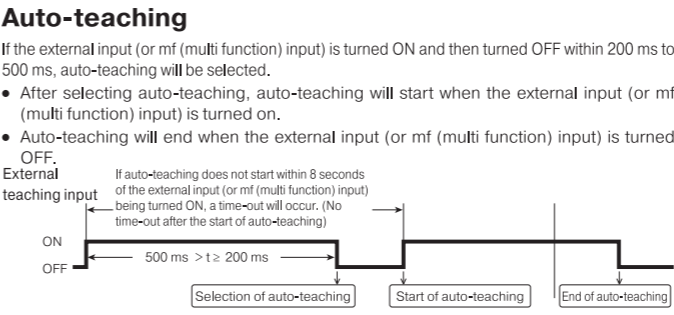
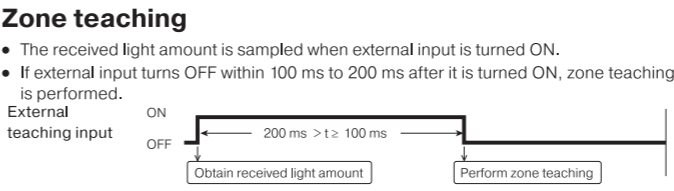
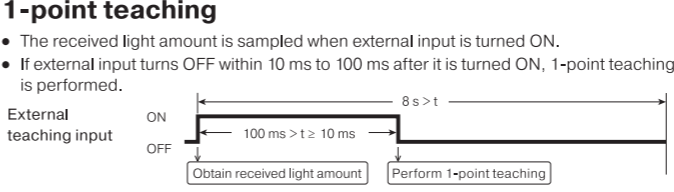


11. Details on External Teaching

When using external input for teaching, the teaching method can be selected according to input time. The conditions under which external input is turned ON differs depending on the output settings.

- With the NPN setting: ON at 0 V (blue) and short circuit
- With the PNP setting: ON at 10 V to 30 V (brown) and short circuit

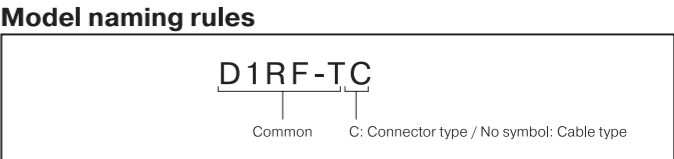
* External teaching is cancelled if 8 sec. or more have passed with external input ON.



12. Specifications

Item	D1RF-T / D1RF-TC
Light source	Red LED
Supply voltage	10 to 30 VDC (including 10% ripple)
Current consumption (power)	40 mA max.
Response time	Standard: 250 μs Fast: 50 μs
Control output	NPN/PNP switched by setting, Open collector, 30 V/100 mA, Residual voltage 1.8 V max.
External input	External teaching
Initialization time	100 ms
Sensitivity adjustment	Teaching, fine tuning with +/- buttons
Output mode	Light ON / Dark ON selectable
Indicators	Output indicator: Orange, Power indicator: Green
Digital display	7-segment, 4-digit display Received light amount / Threshold / Set value
Protection circuit	Reverse connection protection, Overcurrent protection, 30 V max.
Cross talk prevention	Max. 2 units
Degree of protection	IP66
Operating temperature/humidity	-25 to +55°C / 35 to 85% (no freezing or condensation)*2
Storage temperature/humidity	-40 to +70°C / 35 to 95% (no freezing or condensation)
Ambient illuminance	Sunlight: 10,000 lx or less, Incandescent light: 3,000 lx or less
Vibration resistance	10 to 55 Hz; Double amplitude 1.5 mm; 2 hours in each of the X, Y, and Z directions
Shock resistance	50 G (500 m/s ²), 3 times in each of the X, Y, and Z directions
Mounting	Machine screw: M3 × 2, Rail: 35 mm DIN-rail
Connection type	Cable type: 4-wire 2 m cable, Connector type: M8, 4-pin
Connection	1/Brown: 10 to 30 VDC, 2/White: External input, 3/Blue: 0 V, 4/Black: Control output
Material	Housing, cover: Polycarbonate (PC)
Outer dimensions	10 × 33.2 × 75.5 (mm)
Included accessory(ies)	Instruction manual
Options	Mounting bracket
Applicable regulation(s)	EMC EMC Directive (2014/30/EU) Environment RoHS Directive (2011/65/EU), China RoHS (MIIT Order No.32)
Applicable standard(s)	EN 60947-5-2

*1: Target 500 mm × 500 mm reflection rate 90%, when using fiber NF-DK06
*2: Up to 16 closely mounted units



Support for the China RoHS directive

10 For details on the support for the China RoHS (the Administrative Measure on the Control of Pollution Caused by Electronic Information Products), see the following website.
http://www.optex-fa.com/rohs_cn/

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