

THERMOELECTRIC COOLER FOR HEAD-ON PMT C12473

The C12473 is a forced air-cooled thermoelectric cooler designed for 25 mm square head-on photomultiplier tubes and for the R11265 series metal-package photomultiplier tubes. Cooling a photomultiplier tube is effective in reducing thermal noise from the photocathode and improves the signal-to-noise ratio (S/N ratio).



C12473 + E13778 (Sold separately)

FEATURES

- Air-cooled thermoelectric cooler using a peltier module
- High cooling capability:
ΔT=-25 °C (relative to ambient temperature)
- Easy to handle
- Compact and lightweight

SPECIFICATIONS

Parameter	Description / Value		Unit
Cooling method	Thermoelectric cooling using Peltier module		—
Peltier input current	Max.	2.0	A
Heat exchange medium	Forced air		—
Cooling temperature (Δt)	Min.	-25	°C
Time to stable cooling temperature	Approx. 30		min
Optical window material	Silica glass (170 nm to 2200 nm)		—
Applicable PMTs (sold separately)	R1924A, R3550A R1925A, R5070A	R11265-100, R11265-200 R11265-300, R11265-20 [Ⓐ]	—
Applicable socket assembly (sold separately)	E2924-13 (when used with the A12769)	E13778	—
Supply voltage for fan	+12		V
Standard voltage output of temperature sensor at +25 °C (298.2 K) [Ⓑ]	+2.982		V
Temperature coefficient of temperature sensor [Ⓑ]	0.01		V/°C
Operating range of temperature sensor [Ⓑ]	-25 to +105		°C
Operating ambient temperature	+5 to +35		°C
Operating ambient humidity (No condensation)	Below 75		%
Storage temperature	-20 to +50		°C
Storage humidity (No condensation)	Below 80		%
Weight	307		g

[Ⓐ]Cannot be used with the R11265U-xxx (U type).

[Ⓑ]Temperature sensor does not function when the C12198-A1 power supply unit (sold separately) is used.

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Figure 1: Spectral transmission characteristics of optical window

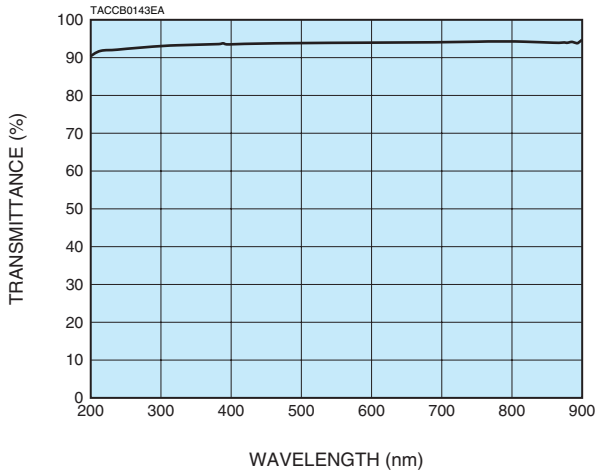


Figure 2: Cooling characteristics

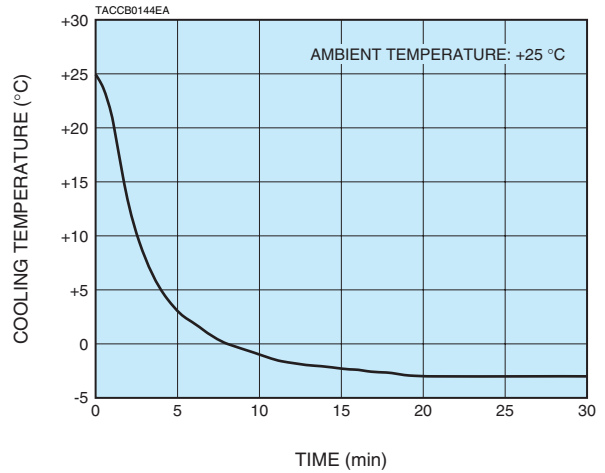


Figure 3: Example of dark count when cooled

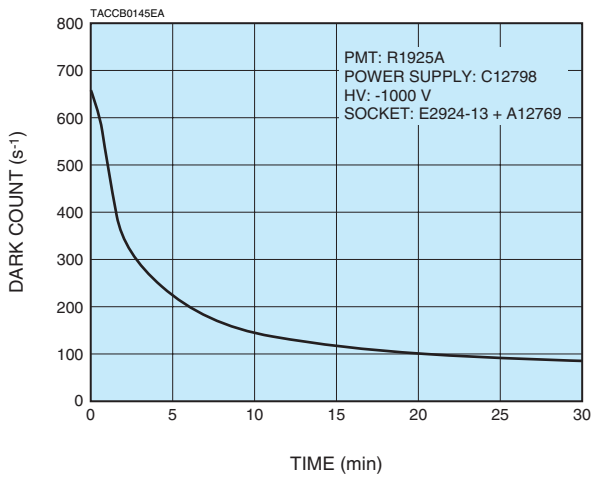


Figure 4: Voltage output of temperature sensor

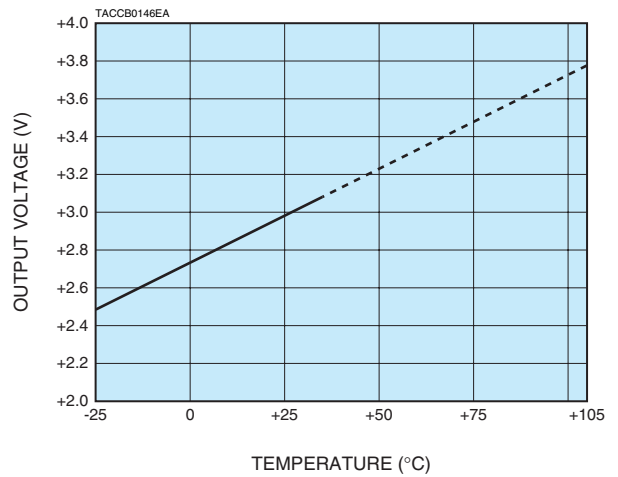
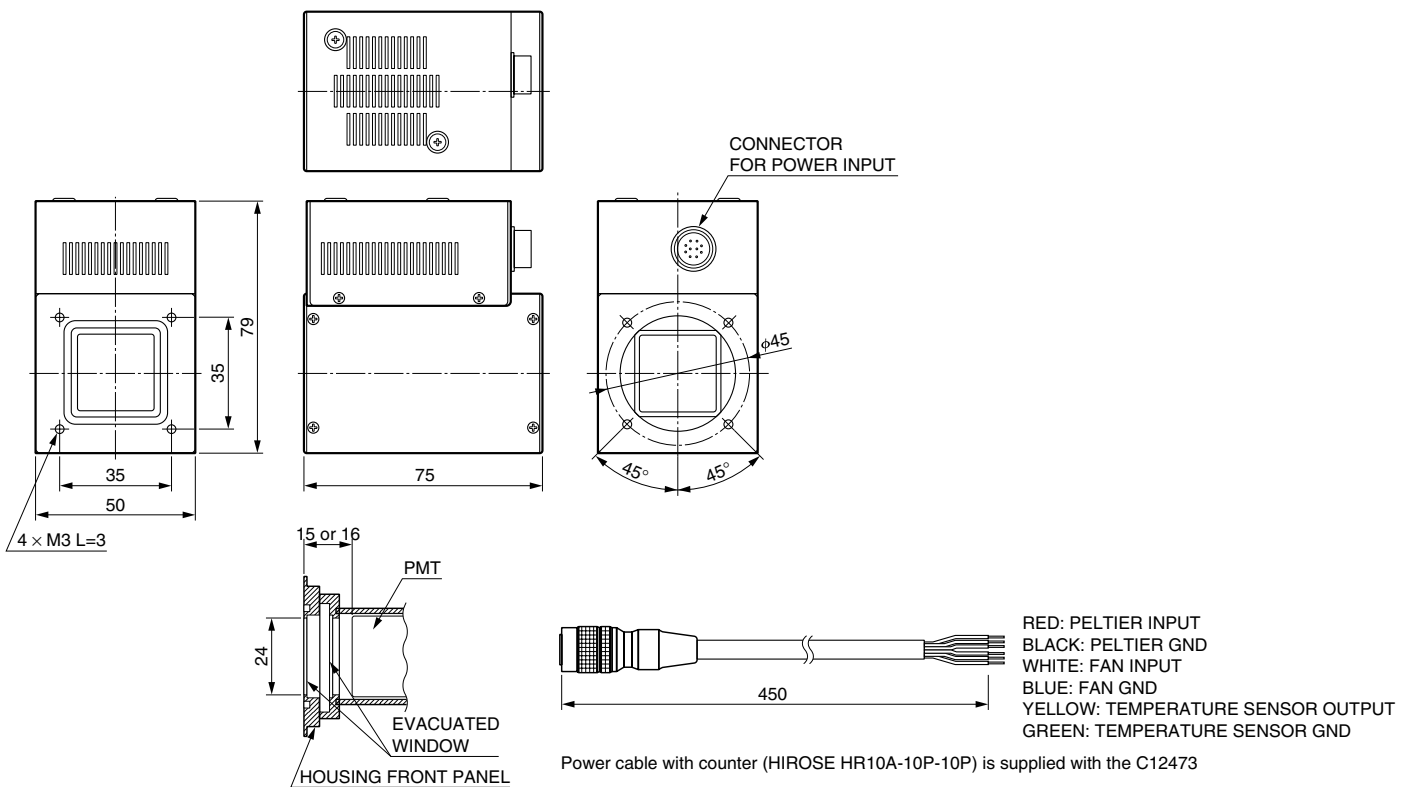


Figure 5: Dimensional outline (Unit: mm)



OPTION

●C12798 POWER SUPPLY UNIT FOR C12473 COOLER

The C12798 is a power supply unit specifically designed for the C12473 cooler. Just connecting the C12798 to the C12473 cooler with the supplied power cable allows operating the C12473 cooler right away.

- * C12798-A1: for Japan
- C12798-A2: for USA
- C12798-A3: for EU

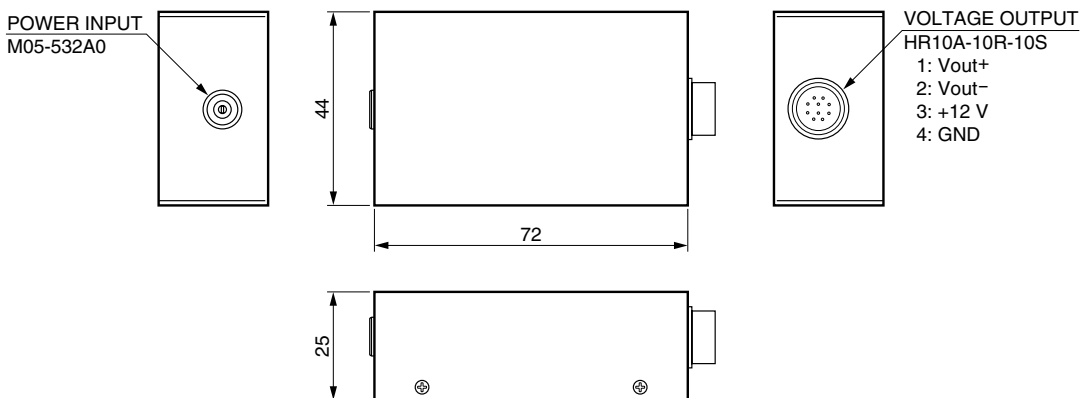


●Specifications

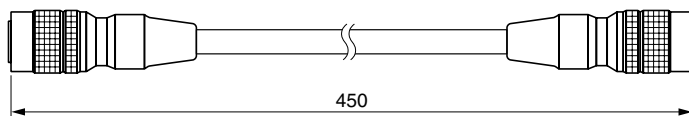
Parameter	Description / Value	Unit
Input voltage	+15 V / 700 mA (supplied from AC adapter)	—
AC input voltage	AC100 to AC240	V
Output voltage for peltier	+9	V
Output current for peltier	1 (fixed value)	A
Output voltage for fan	+12	V
Output current for fan	100	mA
Dimensions (W × H × D)	44 × 25 × 72 (excluding projecting parts)	mm
Operating ambient temperature	+5 to +40	°C
Operating ambient humidity (No condensation)	Below 75	%
Storage temperature	-20 to +50	°C
Storage humidity (No condensation)	Below 85	%

* Supplied: AC adapter (-A1: for Japan, -A2: for USA, -A3: for EU)

Figure 6: Dimensional outline (Unit: mm)



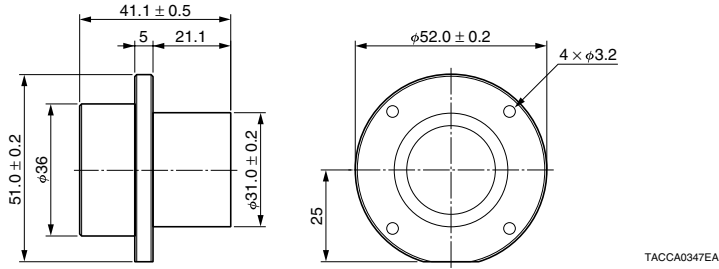
Power cable with connector (HIROSE HR10A-10P-10P) is supplied with the C12798-A1



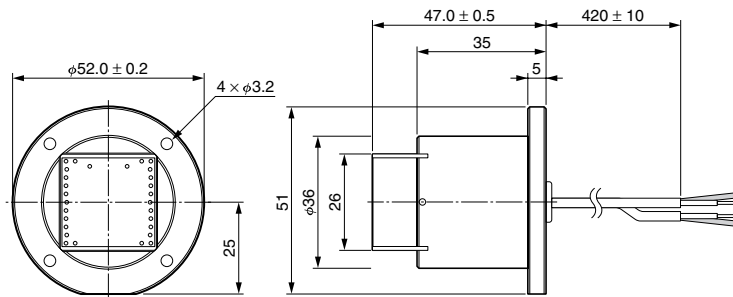
THERMOELECTRIC COOLER FOR HEAD-ON PMT C12473

OPTION (SOLD SEPARATELY)

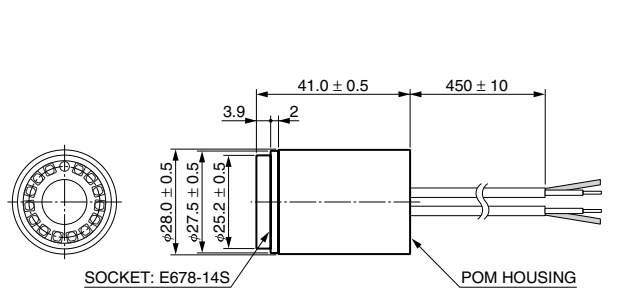
HOUSING A12769



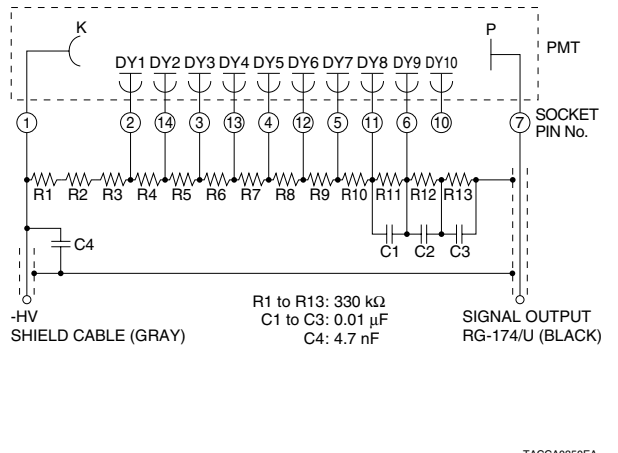
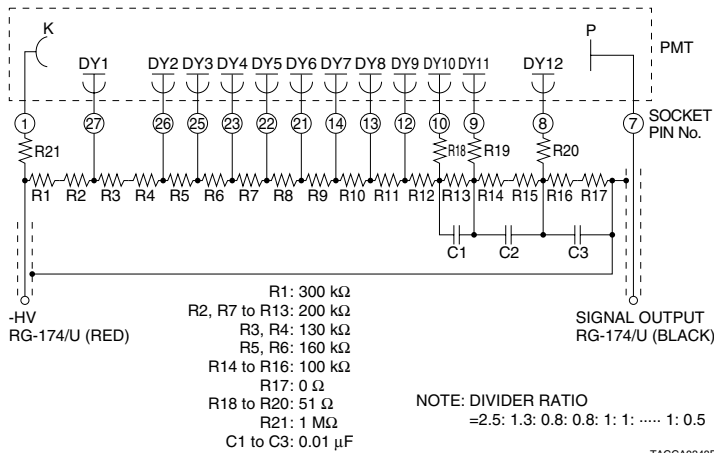
D TYPE SOCKET ASSEMBLY E13778



D TYPE SOCKET ASSEMBLY E2924-13

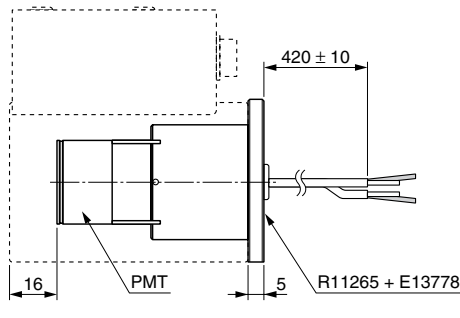


NOTE: * IT'S POSSIBLE TO ATTACH MHV / SHV FITTING RG-174/U.

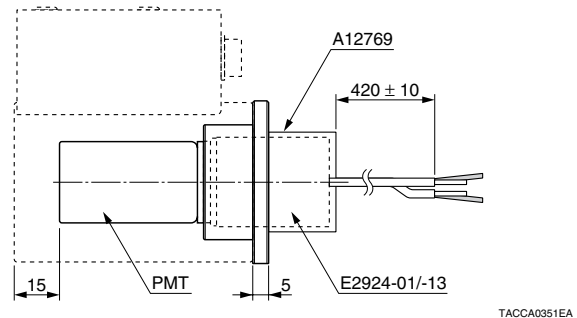


CONNECTION EXAMPLE

E13778 + R11265



A12769 + E2924-01/-13 + R1925A



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