

This unit is capable of measuring light levels at one time over a wide dynamic range up to 8 orders of magnitude. This wide dynamic range is achieved by simultaneously extracting a digital output (single photon counting) for detecting very-low-level light and an analog output for detecting low light levels visible to the human eye.

FEATURES

- **Swift continuous measurement over a wide dynamic range**
Up until now, measurement of light requiring a wide dynamic range has used two separate measurement methods: one for lower light levels and one for higher light levels.
- **Easy-to-use data acquisition unit**
Single photon counting output and analog output of the wide dynamic range PMT module are transferred to a PC via USB connection, and the two types of signals are synthesized into one by the supplied software.



Left: H13126, Right: C12918 series

SPECIFICATIONS

Wide dynamic range photomultiplier tube module H13126

| Parameter | | Description / Value | Unit |
|-------------------------------|------------------------------------------------|-------------------------------------------|-----------------|
| Effective area | | $\phi 22$ | mm |
| Spectral response | | 300 to 650 | nm |
| Peak wavelength | | 375 | nm |
| Photon counting | Output signal | C-MOS positive logic (Pulse output) | — |
| | Pulse pair resolution | 16 | ns |
| | Dark count [Ⓐ] | Below 100 | s ⁻¹ |
| Analog (Amplifier output) | Bandwidth (-3 dB) | DC to 50 / DC to 500 [Ⓑ] | kHz |
| | Count-to-analog conversion factor | 1 V / 5 × 10 ⁸ s ⁻¹ | — |
| | Output voltage (Load resistance 1 k Ω) | 0 to +10 | V |
| | Output impedance | 50 | Ω |
| Input voltage | | ± 14 to ± 15.5 | V |
| Max. input current | | +150 / -25 | mA |
| Operating ambient temperature | | +5 to +40 | °C |
| Weight | | 400 | g |

[Ⓐ]After 3 hour storage in darkness [Ⓑ]Excluding projecting parts

Data acquisition unit C12918 series

| Parameter | | Description / Value | Unit |
|-------------------------------|-------------------------|---------------------------------------------|------------|
| Counter | Signal input level | C-MOS positive logic (Pulse input) | — |
| | Gate time | 1 μ s / 10 μ s | — |
| | Input impedance | 50 | Ω |
| | Minimum pulse width | 8 | ns |
| | Counter length | 8 bit / Gate | — |
| AD converter | Signal input range | 0 to +10 (Analog input) | V |
| | Sampling rate | 100 kHz / 1 MHz | — |
| | Resolution | 16 | bit |
| | Input impedance | 1 | k Ω |
| Trigger | Trigger method | Internal trigger / External trigger | — |
| | External trigger signal | TTL negative logic | — |
| Interface | | USB 1.1 | — |
| Compatible OS | | Windows [®] vista business / 7 Pro | — |
| Input voltage | | AC 100 to AC 240 | V |
| Operating ambient temperature | | +5 to +45 | °C |
| Weight | | 250 (Main body only) | g |

WIDE DYNAMIC RANGE PHOTOMULTIPLIER TUBE UNIT

Figure 1: Typical spectral response

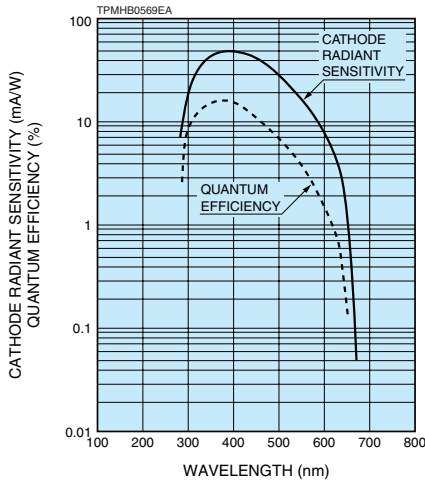


Figure 2: Measurement example

Afterglow characteristics of P43 phosphor

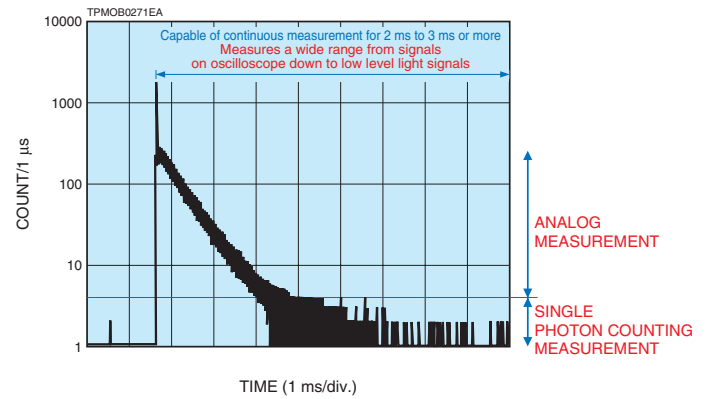
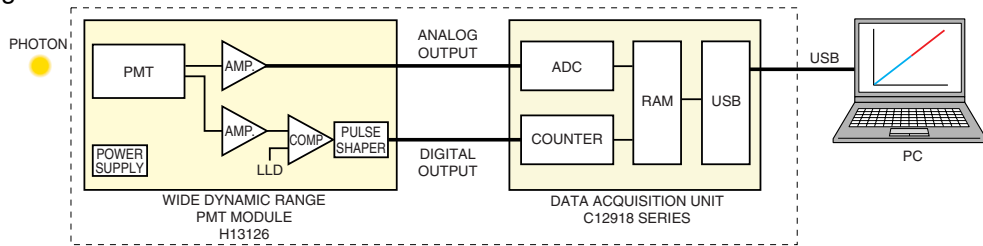


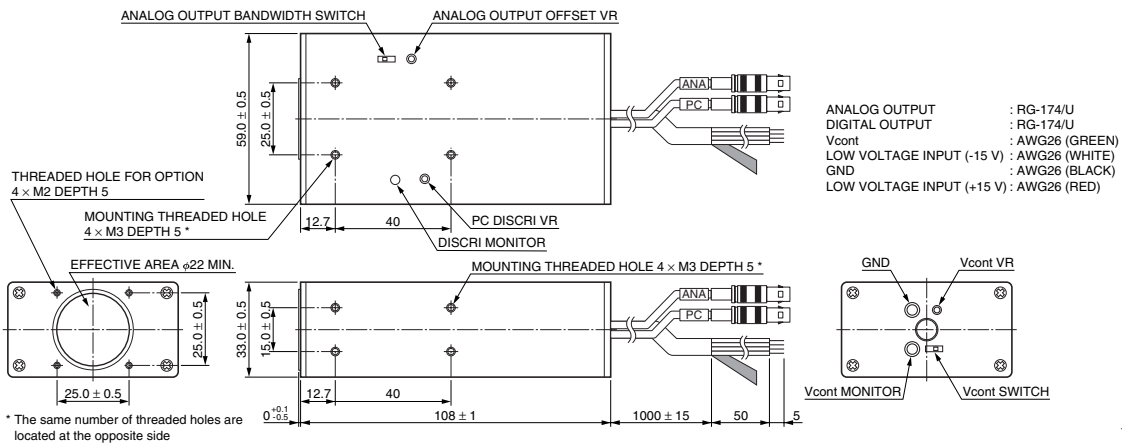
Figure 3: Block diagram



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Figure 4: Dimensional outline (Unit: mm)

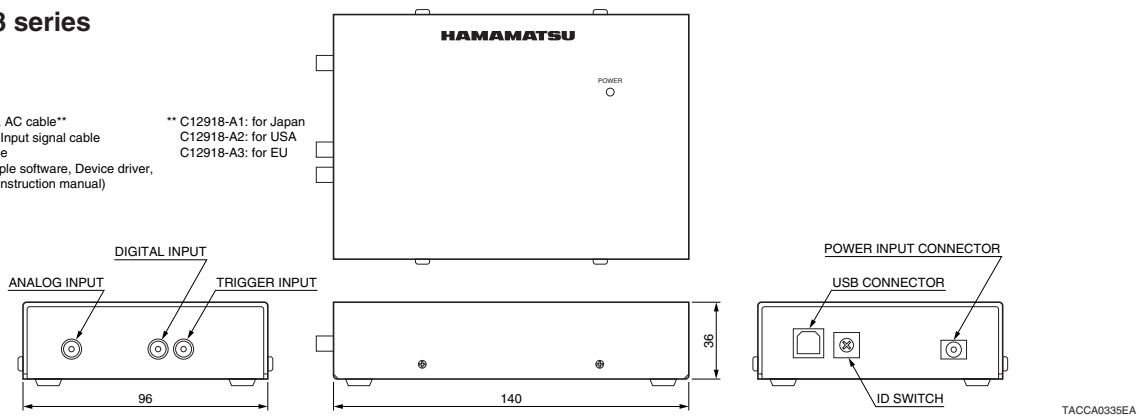
●H13126



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●C12918 series

- Supplied AC adapter, AC cable**
 - USB cable, Input signal cable
 - Trigger cable
 - CD-R (Sample software, Device driver, Containing instruction manual)
- ** C12918-A1: for Japan
C12918-A2: for USA
C12918-A3: for EU



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