

### FEATURES

- 16 channels (4 × 4 multianode)
- Effective area:  $\phi 5$  mm / ch
- Low voltage operation: +5 V
- High speed data transfer: LVDS output
- Channel pitch: 9 mm

### APPLICATIONS

- For 96 well microplate reader



### SPECIFICATIONS

(at +25 °C)

Parameter			Value	Unit
Input voltage			+4.75 to +5.25	V
Max. input voltage			+5.5	V
Input current		Typ.	160	mA
Number of channels			16 (4 × 4)	—
Effective area per channel			$\phi 5$	mm
Channel pitch			9	mm
Spectral response range			300 to 650	nm
Peak sensitivity wavelength			400	nm
Count sensitivity per channel	300 nm	Typ.	$3.4 \times 10^5$	s <sup>-1</sup> ·pW <sup>-1</sup>
	400 nm	Typ.	$4.8 \times 10^5$	
	500 nm	Typ.	$3.0 \times 10^5$	
	600 nm	Typ.	$6.3 \times 10^4$	
Count linearity per channel <sup>①</sup>			$3.0 \times 10^6$	s <sup>-1</sup>
Dark count per channel <sup>②</sup>		Typ.	50	s <sup>-1</sup>
		Max.	100	
Pulse-pair resolution			33	ns
Count uniformity between each channel		Max.	1: 2	—
Cross talk		Typ.	0.05	%
Recommended load resistance			100	$\Omega$
Signal output method			LVDS	—
Operating ambient temperature <sup>③</sup>			+5 to +40	°C
Storage temperature <sup>③</sup>			-20 to +50	°C
Weight			280	g

- NOTE:** <sup>①</sup>Random pulse, at 10 % count loss  
<sup>②</sup>After 30 minutes storage in darkness  
<sup>③</sup>No condensation

# 4 x 4 CHANNELS PHOTON COUNTING HEAD H14870

Figure 1: Typical count sensitivity

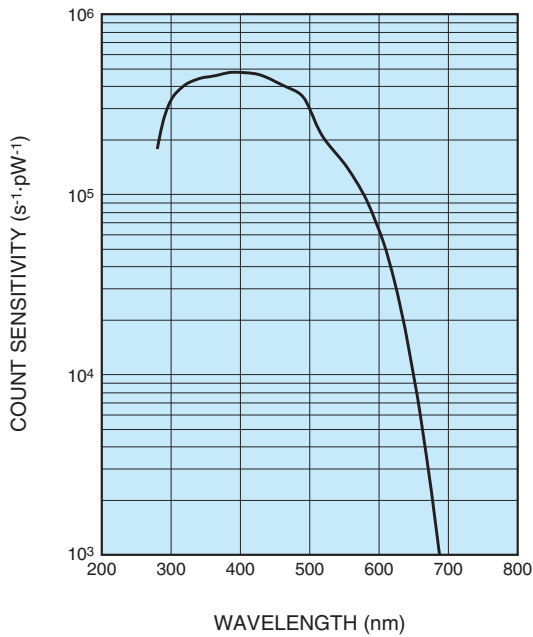


Figure 2: Block diagram

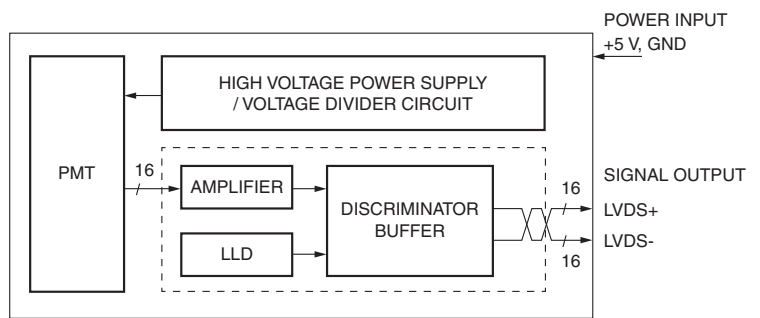
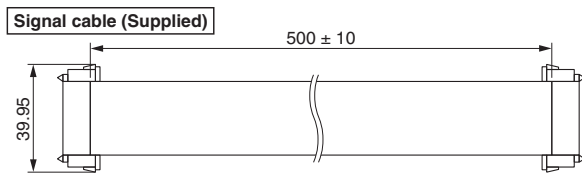
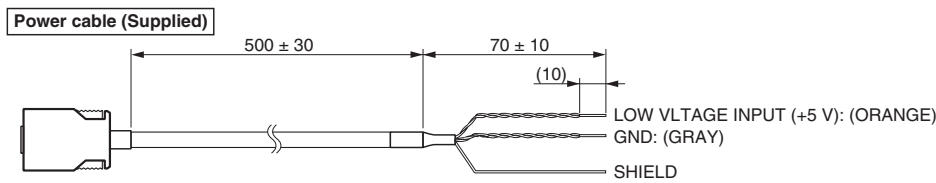
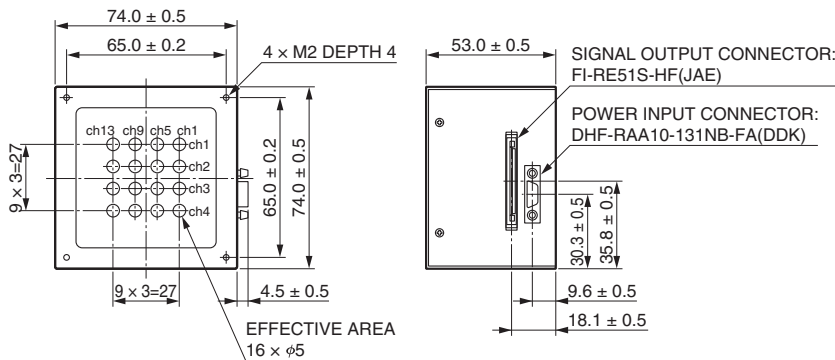


Figure 3: Dimensional outline and pin assignment (Unit: mm)



## PIN ASSIGNMENT

### SIGNAL OUTPUT CONNECTOR: FI-RE51S-HF(JAE)

No.		No.		No.	
1	GND	18	CH11-	35	GND
2	GND	19	CH11+	36	CH5-
3	CH16-	20	GND	37	CH5+
4	CH16+	21	CH10-	38	GND
5	GND	22	CH10+	39	CH4-
6	CH15-	23	GND	40	CH4+
7	CH15+	24	CH9-	41	GND
8	GND	25	CH9+	42	CH3-
9	CH14-	26	GND	43	CH3+
10	CH14+	27	CH8-	44	GND
11	GND	28	CH8+	45	CH2-
12	CH13-	29	GND	46	CH2+
13	CH13+	30	CH7-	47	GND
14	GND	31	CH7+	48	CH1-
15	CH12-	32	GND	49	CH1+
16	CH12+	33	CH6-	50	GND
17	GND	34	CH6+	51	GND

### POWER INPUT CONNECTOR: DHF-RAA10-131NB-FA(DDK)

No.	
1	Vcc (+5 V)
2	Vcc (+5 V)
3	GND
4	GND
5	NC
6	NC
7	NC
8	NC
9	NC
10	NC

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