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Find the *Hamamatsu C8799* at our website: ***Click HERE***

NEW

MODULE

Data processing unit for NMOS linear image sensor

C8799

Data processing unit with USB interface



C8799 is a data processing unit that converts video signals from an NMOS image sensor driver circuit into digital signals and transfers them to a PC. The USB interface allows easy connection to a PC for high-speed data communications at 12 Mbps.

Features

- Built-in 12-bit A/D converter
- Adjustable data rate (5 MHz Max.)
- Internal memory: 1 mega-word
- Interface of computer: USB 1.1
- Simultaneous measurements using multiple units

Applications

- Spectrophotometry
- Position measurement

■ Absolute maximum ratings (Ta=25 °C)

Parameter	Symbol	Value	Unit
Digital power supply	V_D	+7	V
Analog power supply	V_A	±18	V
Operating temperature	Topr	0 to +50 *1	°C
Storage temperature	Tstg	0 to +60 *1	°C

*1: No condensation

■ Specifications

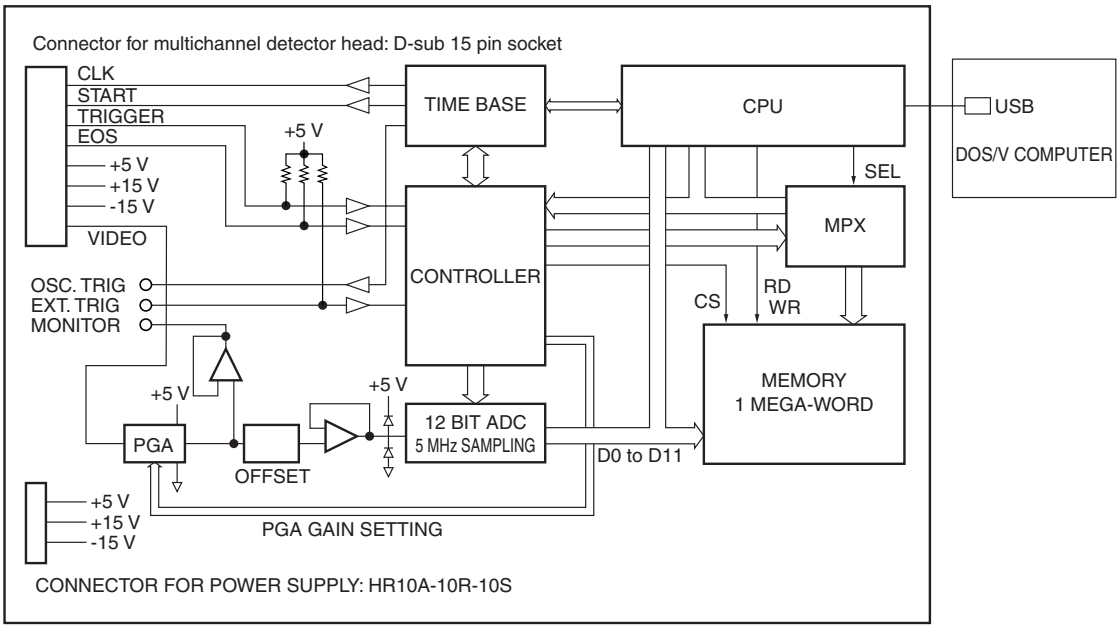
Parameter		Remark	Specification
Supply voltage	+5 V	*2	+5 V, 200 mA
	+15 V	*2	+15 V, 150 mA
	-15 V		-15 V, 0 mA (for image sensor driver circuit supply)
Video input signal		*3	0 to 10 V
Control output signal (START)		*4	Positive logic
Synchronized output signal (CLK)		*5	16 MHz, 8 MHz, 4 MHz, 2 MHz, 1 MHz, 500 kHz, 250 kHz, 125 kHz, 62.5 kHz
A/D resolution			12 bit
Data rate		*6	5 MHz (Max.)
Internal memory			1 mega-word
Interface of computer			USB 1.1
Compatible OS		*7	Windows 98, Windows 2000, Windows XP

*2: Tentative data
*3: C8799-01 compatible with 0 to 5 V supply is also available.
*4: Pulse width and interval are adjustable.
*5: Setting is selectable.
*6: Data rate equals the CLK frequency divided by the number of CLK pulses generated in an NMOS driver circuit for forming pixels.
*7: Correct operation on OS (operating system) has been verified, but please note that operation has not been verified on all PC models.

SOLID STATE DIVISION

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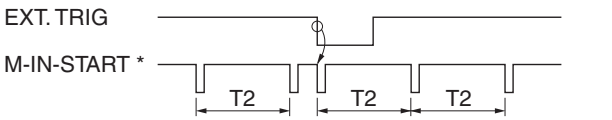
■ Block diagram



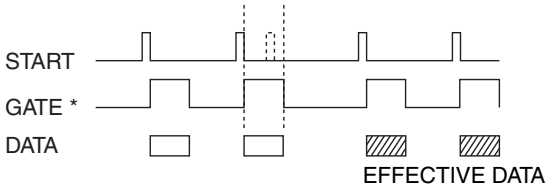
DATA PROCESSING UNIT C8799

KACCC0173EA

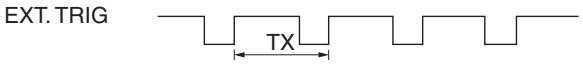
■ Timing chart (external trigger setting)



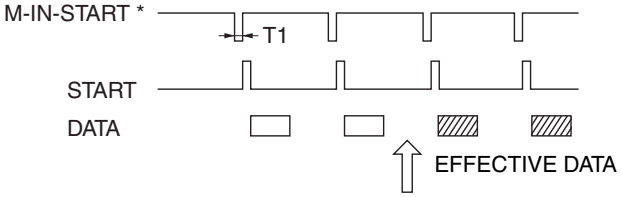
When EXT. TRIG is input while GATE is at High level, data is enabled from the next scan.



Data collection timing by external one-shot trigger (when enabled with falling edge)



The M-IN-START setting (T2) is ignored when this mode is selected. But T1 stays enabled. Integration time depends on TX.



DATA COLLECTION START KEY INPUT

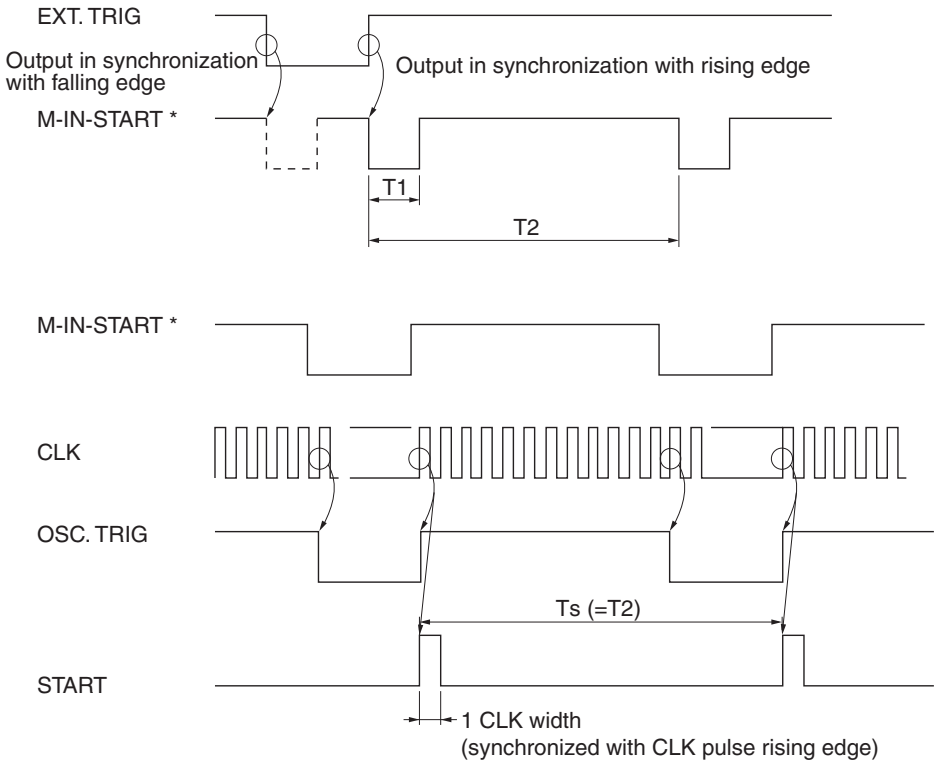
Data collection timing by external continuous trigger input (when enabled with falling edge)

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* Internal signal

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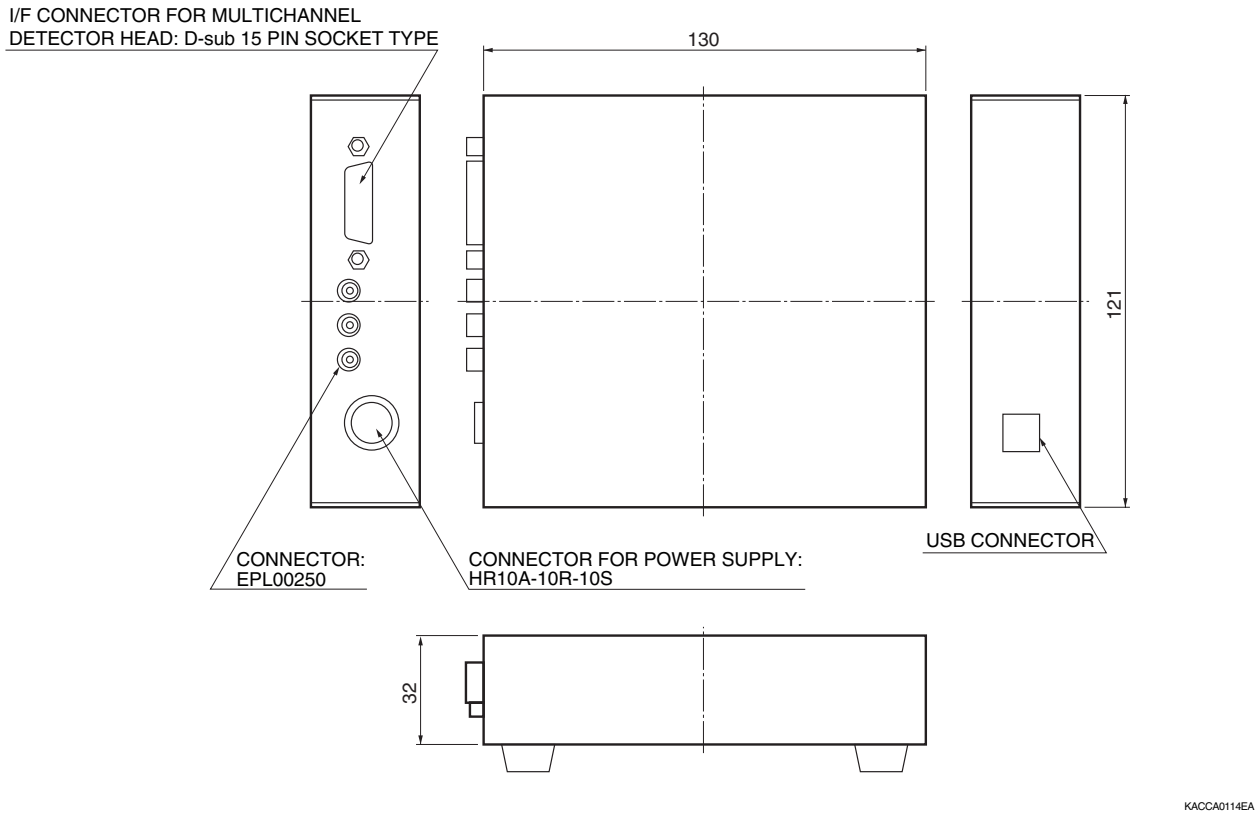
■ Timing chart (accumulation setting)



* Internal signal

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■ Dimensional outline (unit: mm)

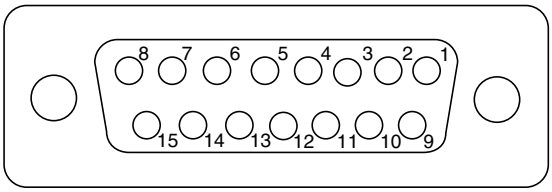


KACCA0114EA

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■ Pin connection of “SIGNAL I/O” connector

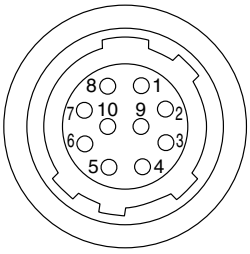
<Connector for multichannel detector head I/F>
(15-pin D-sub connector)



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Pin No.	Terminal name	I/O	Content
1	NC		No connection
2	VIDEO	I	Video signal
3	+15 V	O	+15 V supply line
4	-15 V	O	-15 V supply line
5	+5 V	O	+5 V supply line
6	START	O	MCD reset signal
7	CLK	O	MCD synchronization signal
8	EOS	I	Sensor end-of-scan signal
9	A. GND		Analog ground
10	A. GND		Analog ground
11	NC		No connection
12	D. GND		Digital ground
13	D. GND		Digital ground
14	D. GND		Digital ground
15	TRIGGER	I	A/D conversion timing

<Supply connector>
R-circle type connector
Made by HIROSE: HR10A-10R-10S

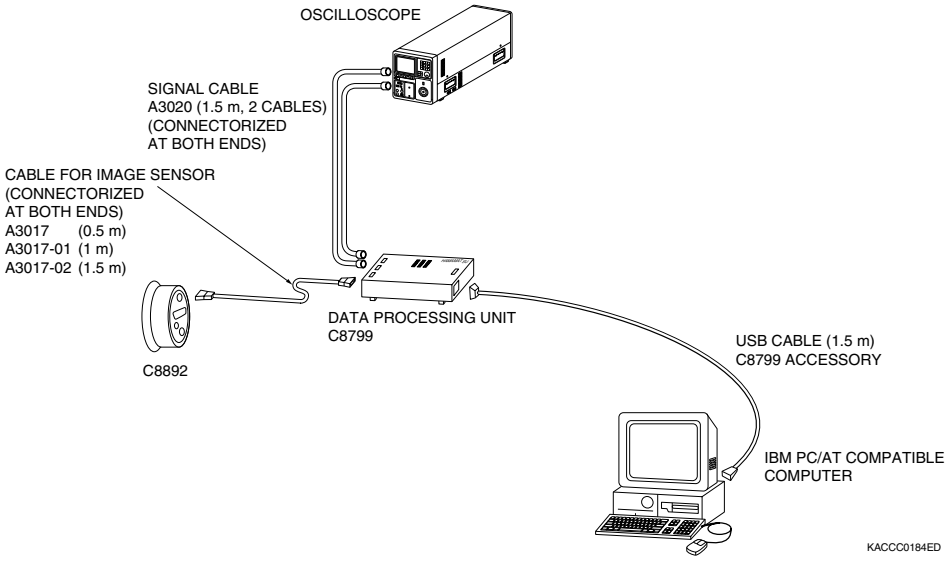


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Pin No.	Terminal name	I/O	Content
1	+15 V	I	+15 V supply line
2	A. GND		Analog ground
3	-15 V	I	-15 V supply line for MCD
4	A. GND		Analog ground
5	+5 V	I	+5 V supply line
6	D. GND		Digital ground
7	+5 V	I	+5 V supply line for MCD
8	D. GND		Digital ground
9	NC		No connection
10	NC		No connection

Note) MCD: Multichannel Detector Head

■ Connection example for data processing unit (C8799) to peripheral units



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