

Dental X-ray sensors



C10819 series

Digital radiography system for dental diagnosis (GMDN code 18053)

The C10819 series is a device developed for intra-oral radiography. The C10819 series consists of a sensor (S10810, S10811) and a main unit. Control and data transmission can be performed between this product and PC via USB (compliant with USB2.0). Also, since the power to this product is provided via the USB port of the PC, an external power source is not required. Furthermore, application software that operates in Windows 2000/XP is included in the C10819 series thus it can be operated on a PC right away. Moreover, DLL (dynamic link library) is also included in the application software of the C10819 series and the software can be developed.

Features

- No external power supply required: uses USB bus power
- 2 types of industrial standard image sizes are available.
- High resolution and low cost type are available.
- Supports AC/DC type X-ray source
- Acquires digital images on the PC with this product and its exclusive software only
- Speedy data transmission via USB 2.0
- LED operation mode display

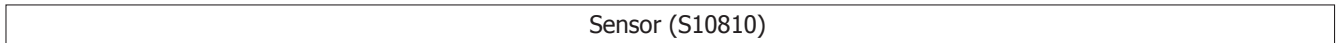
Applications

- Intra-oral X-ray imaging in dental diagnosis

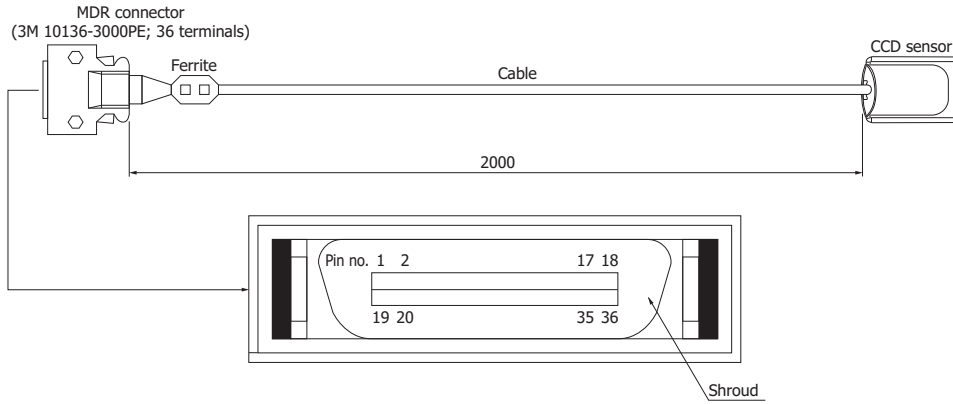
Specifications

Parameter	Condition	C10819-01	C10819-02
Image sensor		S10810	S10811
Window		Scintillator on 1.5 mm thick FOP	
Number of pixels		1508 (H) × 1002 (V)	1708 (H) × 1202 (V)
Number of active pixels		1500 (H) × 1000 (V)	1700 (H) × 1200 (V)
Pixel size		20 × 20 μm	
Active area		30 (H) × 20 (V) mm	34 (H) × 24 (V) mm
X-ray resolution		15 Lp/mm min.	
Scan rate		1 MHz	
Frame readout time		1.62 s	2.18 s
Data transfer time		1.61 s	2.17 s
Total transfer time		1.62 s	2.18 s
A/D conversion resolution	4095ADU	12-bit	
Conversion gain		48.8 e ⁻ /ADU	
Readout noise		7 ADU	
Dynamic range		585	
Memory size		4	
Interface		USB 2.0	
Power supply		USB bus power	
Storage temperature		-20 to +70 °C	
Operating temperature		0 to +40 °C	
Operating humidity	No condensation	70% max.	
Dimension of sensor		41 (H) × 26.4 (V) mm	42.3 (H) × 30 (V) mm
Dimension of main unit		32 (H) × 115 (W) × 125 (D) mm	
Weight	Excluding sensor	Approx. 170 g	
Reliability	60 kVp, 30 mR	100000 shots	

Dimensional outlines (unit: mm)



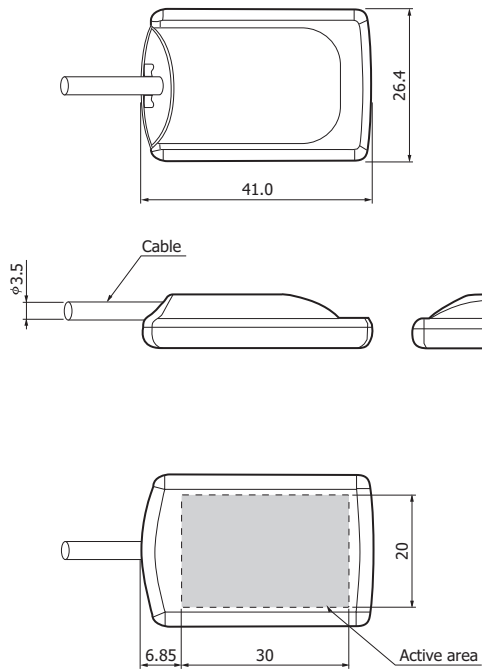
Entire view



KMPDA0244EA

Note: The shield of cable and the shroud of MDR connector are short-circuited.
Take due care of EMC and ESD when connected to 0 V reference and the ground.

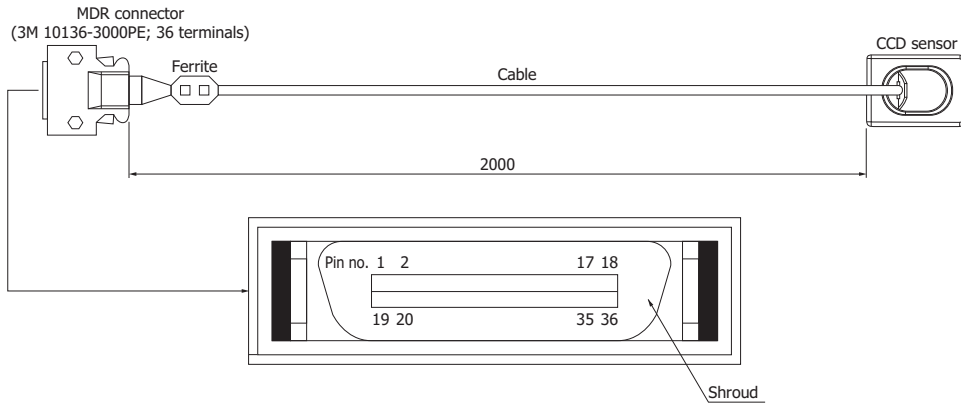
CCD sensor



KMPDA0245EB

Sensor (S10811)

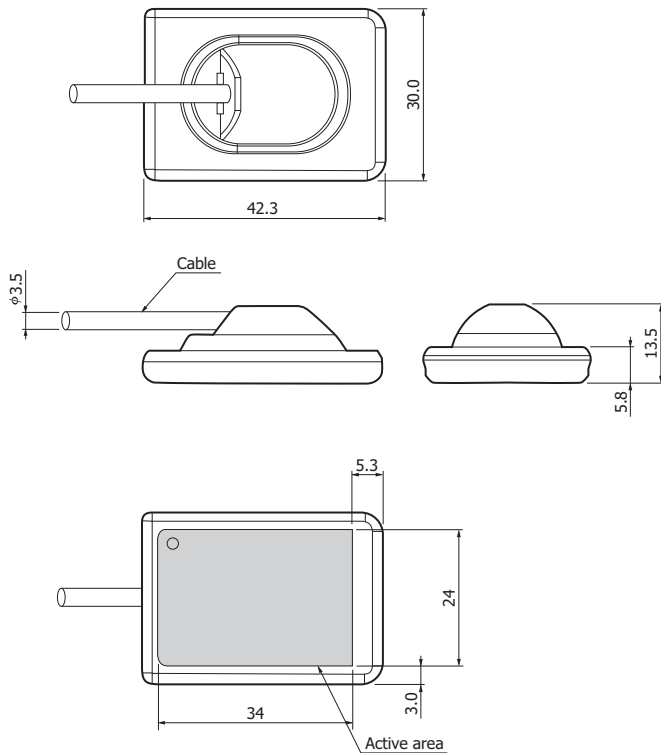
■ Entire view



KMPDA0246EA

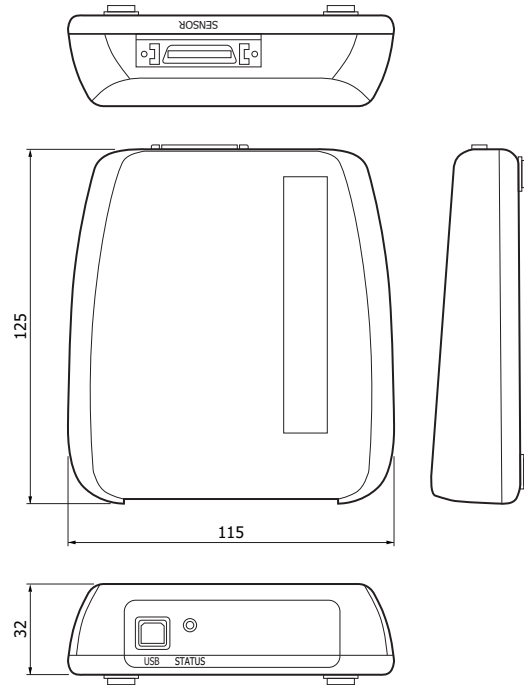
Note: The shield of cable and the shroud of MDR connector are short-circuited.
Take due care of EMC and ESD when connected to 0 V reference and the ground.

■ CCD sensor



KMPDA0247EB

Main unit



KACCA0272EA

Accessories

- USB cable
- Quick manual
- CD-ROM (includes the C10819 series instruction manual, application software)

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.

Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein.

Type numbers of products listed in the specification sheets or supplied as samples may have a suffix "(X)" which means tentative specifications or a suffix "(Z)" which means developmental specifications. ©2010 Hamamatsu Photonics K.K.

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