

## Price List

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 Prices are subject to change without notice.

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## Infrared Thermometers

### optris CS

Compact IR thermometer with stainless steel housing (M12x1), Analog output selectable: 0-10 V/ 0-1 V/ t/c type K, Alarm output, programmable functional input

**Scope of supply:** CS incl. 2 mounting nuts, 1 m connection cable, Quick start guide

Part-Number	Description	Price in €
OPTCS	<b>Temperature and Spectral range/ Optics/ Response time</b> ...LT15 <b>optris CS:</b> -50-1030 °C/ 8-14 µm/ 15:1/ 14 ms mV or t/c type K output (selectable)	95
	<b>Optics</b> ...SF SF optics	0
	<b>Cable length</b> ...CB1 1 m Connection cable	0
	...CB3 3 m Connection cable	10
	...CB8 8 m Connection cable	25
	...CB15 15 m Connection cable	45

### Options

...K	<b>optris CS kit:</b> CS incl. IR App Connector (with Micro-USB plug and adapters for USB-C and USB-A) Software CompactConnect and IRmobile Android app as download	30
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Compact IR thermometer with stainless steel head (M12x1), Electronics integrated in connection cable, Analog output 0-5/10 V or 4-20 mA (two-wire), Alarm output, programmable functional input

**Scope of supply:** CSmicro incl. mounting nut, 1 m connection cable (50 cm between head and electronics), Operators manual, isolated mounting bracket (LTH models only)

Part-Number	Description	Price in €
	<b>Basic model</b>	
OPTCSMV	optris CSmicro with mV output	195
OPTCSMA	optris CSmicro with mA output (two-wire)	195
	<b>LT models (8-14 µm): Temperature range/ Optics/ Ambient temperature (sensing head)/ Response time</b>	
...LT02	<b>CSmicro LT02:</b> -50-1030 °C/ 2:1/ 120 °C/ 14 ms	0
...LT15	<b>CSmicro LT15:</b> -50-1030 °C/ 15:1/ 120 °C/ 14 ms	0
...LT15H	<b>CSmicro LT15H:</b> -50-1030 °C/ 15:1/ 180 °C/ 150 ms	90
...LT22H	<b>CSmicro LT22H:</b> -50-1030 °C/ 22:1/ 180 °C/ 150 ms	90
...LT15S	<b>CSmicro LT15 HS:</b> -20-150 °C/ 15:1/ 75 °C/ 150 ms temperature resolution <b>0,025 K</b> , incl. Massive housing (D06ACCTMHS) and Certificate of calibration - traceable to PTB transfer standards	365
	<b>Optics</b>	
...SF	SF optics	0
...CF	CF optics: 3,4 mm@ 50 mm (15:1) / 2,3 mm@ 50 mm (22:1)	0
	<b>2M (1,6 µm)/ 3M (2,3 µm) models: Temperature range/ Optics/ Ambient temperature (sensing head)/ Response time</b>	
...2ML	<b>CSmicro 2ML:</b> 250-800 °C/ 40:1/ 125 °C/ 8 ms (mA version: 20 ms)	200
...2MH	<b>CSmicro 2MH:</b> 385-1600 °C/ 75:1/ 125 °C/ 8 ms (mA version: 20 ms)	200
...3ML	<b>CSmicro 3ML:</b> 50-350 °C/ 22:1/ 85 °C/ 8 ms (mA version: 20 ms)	290
...3MH	<b>CSmicro 3MH:</b> 100-600 °C/ 33:1/ 85 °C/ 8 ms (mA version: 20 ms)	175
	<b>Optics</b>	
...SF	SF optics	0
...CF1	CF1 optics: 1,5 mm@ 30 mm (3ML) / 1,0 mm@ 30 mm (3MH) (head length: 32 mm)	0
...CF	CF optics: 2,7 mm@ 110 mm (2ML) / 1,5 mm@ 110 mm (2MH) / 5 mm@ 110 mm (3ML) / 3,4 mm@ 110 mm (3MH)	0
	<b>Cable length: sensing head - electronics / after electronics</b>	
...0505	0,5 m / 0,5 m (Standard)	0
...053	0,5 m / 3 m	10
...056	0,5 m / 6 m	20
...305	3 m / 0,5 m (not for LT15S)	20
...33	3 m / 3 m (not for LT15S)	30
...605	6 m / 0,5 m (not for LT15S, 3M)	50
...63	6 m / 3 m (not for LT15S, 3M)	60

**Options**

...K	<b>optris CSmicro kit:</b> CSmicro incl. IR App Connector (with Micro-USB plug and adapters for USB-C and USB-A) Software CompactConnect and IRmobile Android app as download	30
...N	<b>only for LT15 HS</b> Certificate of calibration - traceable to NIST transfer standards (instead of Certificate of calibration/ PTB)	190

Compact IR thermometer with stainless steel head (M12x1) and separate, configurable electronics, Analog outputs (selectable: 0/4-20 mA, 0-5 V, 0-10 V, thermocouple), USB interface, optional: Ethernet TCP/ Modbus TCP/ Modbus RTU/ EtherNet/IP/ Profinet/ RS232/ RS485/ Relais outputs

**Scope of supply:** CTi with mounting nut, 1m high temp. head cable, Electronic box with LCD display and programming keys, Quick start guide, 1,5 m USB-C cable incl. adapter USB-A

Part-Number	Description	Price in €
	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
OPTCTI ...LT02	<b>CTi LT02:</b> -50-650 °C/ 8-14 µm/ 2:1 optics/ 120 °C	250
...LT15	<b>CTi LT15:</b> -50-800 °C/ 8-14 µm/ 15:1 optics/ 180 °C	310
...LT22	<b>CTi LT22:</b> -50-1050 °C/ 8-14 µm/ 22:1 optics/ 180 °C	325
...LT02F	<b>CTi LTfast:</b> -50-600 °C/ 8-14 µm/ 2:1 optics/ 125 °C	370
...LT15F	<b>CTi LTfast:</b> -50-1050 °C/ 8-14 µm/ 15:1 optics/ 125 °C	490
...LT25F	<b>CTi LTfast:</b> -50-1050 °C/ 8-14 µm/ 22:1 optics/ 125 °C	490
	<b>Optics</b>	
...SF	SF optics	0
...CF	CF optics: 3,4 mm@ 50 mm (LT15) 2 mm@ 50 mm (LT22)/ head length: 32 mm	0
	<b>Cable length (head - electronics)</b>	
...CB1	1 m head cable	0
...CB3	3 m head cable	20
...CB8	8 m head cable	50
...CB15	15 m head cable	90
	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
OPTCTI ...LT02H	<b>CTi LThot:</b> -50-1050 °C/ 8-14 µm/ 2:1 optics/ 250 °C Massive housing (D06ACCTMHS) included	590
...LT10H	<b>CTi LThot:</b> -50-1050 °C/ 8-14 µm/ 10:1 optics/ 250 °C Massive housing (D06ACCTMHS) included	590
	<b>Optics</b>	
...SF	SF optics	0
...CF1	CF1 optics: 3,0 mm@ 30 mm (for LT10H only)	0
	<b>Cable length (head - electronics)</b>	
...CB3H	3 m head cable	0
...CB8H	8 m head cable	100
...CB15H	15 m head cable	220
	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
OPTCTI ...G5L	<b>CTi G5L:</b> 50-1000 °C/ 5,0 µm/ 14:1 optics/ 85 °C	460
...G5H	<b>CTi G5H:</b> 100-1650 °C/ 5,0 µm/ 20:1 optics/ 85 °C	460
...P3	<b>CTi P3:</b> 35-600 °C/ 3,43 µm/ 15:1 optics/ 85 °C Massive housing (D06ACCTMHS) included	870
...P7	<b>CTi P7:</b> 0-710 °C/ 7,9 µm/ 10:1 optics/ 85 °C Massive housing (D06ACCTMHS) included	605
	<b>Optics</b>	
...SF	SF optics	0
	<b>Cable length (head - electronics)</b>	
...CB3	3 m head cable	0
...CB8	8 m head cable	50
...CB15	15 m head cable	90

Part-Number	Description	Price in €	
OPTCTI	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>		
	...1MXL	<b>CTi 1MXL:</b> 350-800 °C/ 1,0 µm/ 15:1/ 125 °C	460
	...1ML	<b>CTi 1ML:</b> 485-1150 °C/ 1,0 µm/ 40:1/ 125 °C	460
	...1MH	<b>CTi 1MH:</b> 650-1850 °C/ 1,0 µm/ 75:1/ 125 °C	460
	...1MH1	<b>CTi 1MH1:</b> 800-2200 °C/ 1,0 µm/ 75:1/ 125 °C	460
	...2MXL	<b>CTi 2MXL:</b> 150-500 °C/ 1,6 µm/ 15:1/ 125 °C	460
	...2ML	<b>CTi 2ML:</b> 250-900 °C/ 1,6 µm/ 40:1/ 125 °C	460
	...2MH	<b>CTi 2MH:</b> 385-1600 °C/ 1,6 µm/ 75:1/ 125 °C	460
	...2MH1	<b>CTi 2MH1:</b> 490-2000 °C/ 1,6 µm/ 75:1/ 125 °C	460
		<b>Optics</b>	
	...SF	SF optics	0
	...CF	CF optics: 7,3 mm@ 110 mm (1MXL/ 2MXL)/ 2,7 mm@ 110 mm (1ML/ 2ML)/ 1,5 mm@ 110 mm (1MH/ 1MH1/ 2MH/ 2MH1)	0
		<b>Cable length (head - electronics)</b>	
	...CB3	3 m head cable	0
	...CB8	8 m head cable	70
...CB15	15 m head cable	140	
OPTCTI	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>		
	...3MXL	<b>CTi 3MXL:</b> 30-350 °C/ 2,3 µm/ 12:1/ 85 °C	575
	...3ML	<b>CTi 3ML:</b> 50-475 °C/ 2,3 µm/ 22:1/ 85 °C	575
	...3MH	<b>CTi 3MH:</b> 100-600 °C/ 2,3 µm/ 33:1/ 85 °C	460
	...3MH1	<b>CTi 3MH1:</b> 150-1000 °C/ 2,3 µm/ 75:1/ 85 °C	460
	...3MH2	<b>CTi 3MH2:</b> 200-1500 °C/ 2,3 µm/ 75:1/ 85 °C	460
	...3MH3	<b>CTi 3MH3:</b> 250-1850 °C/ 2,3 µm/ 75:1/ 85 °C	460
		<b>Optics</b>	
	...SF	SF optics	0
	...CF1	CF1 optics: 2,5 mm@ 30 mm (3MXL) / 1,4 mm@ 30 mm (3ML) / 1,0 mm@ 30 mm (3MH) / head length: 32 mm	0
	...CF	CF optics: 9,2 mm@ 110 mm (3MXL) / 5 mm@ 110 mm (3ML) / 3,3 mm@ 110 mm (3MH) / 1,5 mm@ 110 mm (3MH1 - 3MH3)	0
		<b>Cable length (head - electronics)</b>	
	...CB3	3 m head cable	0
	...CB8	8 m head cable	70
	...CB15	15 m head cable	140
OPTCTI	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>		
	...4ML	<b>CTi 4ML:</b> 0-500 °C/ 2,2-6 µm/ 10:1/ 70 °C	650
		<b>Optics</b>	
	...SF	SF optics	0
	...CF	CF optics: 5 mm@ 50 mm	0
		<b>Cable length (head - electronics)</b>	
...CB3	3 m head cable	0	
...CB8	8 m head cable	70	
...CB15	15 m head cable	140	

Part-Number	Description	Price in €
OPTCTIEX	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
	...LT02 CTi LT02 ex: -50-650 °C/ 8-14 µm/ 2:1/ 120 °C	1,020
	...LT15 CTi LT15 ex: -50-800 °C/ 8-14 µm/ 15:1/ 180 °C	1,075
	...LT22 CTi LT22 ex : -50-1050 °C/ 8-14 µm/ 22:1/ 180 °C	1,090
	<b>Optics</b>	
	...SF SF optics	0
	...CF CF optics: 3,4 mm@ 50 mm (LT15 ex)/ 2 mm@ 50 mm (LT22 ex) head length: 32 mm	0
	<b>Cable length (head - electronics)</b>	
	...CB3 3 m head cable	0
	...CB8 8 m head cable	50
	...CB15 15 m head cable	90
	...LT02H CTi LT02H ex: -50-1050 °C/ 8-14 µm/ 2:1/ 250 °C	1,355
	...LT10H CTi LT10H ex: -50-1050 °C/ 8-14 µm/ 10:1/ 250 °C	1,355
	<b>Optics (instead of SF optics)</b>	
	...SF SF optics	0
...CF1 CF1 optics: 3,0 mm@ 30 mm (for LT10H ex only)	0	
<b>Cable length (head - electronics)</b>		
...CB3H 3 m head cable for CTi LThot ex	0	
...CB8H 8 m head cable for CTi LThot ex	100	
...CB15H 15 m head cable for CTi LThot ex	220	

Compact IR thermometer with stainless steel head (M12x1) and separate, configurable electronics, Analog outputs (selectable: 0/4-20 mA, 0-5 V, 0-10 V, thermocouple), Digital interfaces optional (alternatively USB, RS232, RS485, Modbus RTU, Profibus DP, Ethernet)

**Scope of supply:** CT with mounting nut, 1m (CThot/ CT 1M/ 2M/ 3M/ 4M/ G5/ P3/ P7: 3m) high temp. head cable, Electronic box with LCD display and programming keys, Operators manual/ only CT 4ML: USB-C cable incl. adapter for USB-A

Part-Number	Description	Price in €
OPTCT	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
	...LT02 <b>CT LT02:</b> -50-600 °C/ 8-14 µm/ 2:1 SF optics/ 130 °C	200
	...LT15 <b>CT LT15:</b> -50-600 °C/ 8-14 µm/ 15:1 SF optics/ 180 °C	250
	...LT20 <b>CT LT22:</b> -50-975 °C/ 8-14 µm/ 22:1 SF optics/ 180 °C	265
	...LT15F <b>CTfast:</b> -50-975 °C/ 8-14 µm/ 15:1 SF optics/ 120 °C	370
	...LT25F <b>CTfast:</b> -50-975 °C/ 8-14 µm/ 25:1 SF optics/ 120 °C	490
	<b>Optics (instead of SF optics)</b>	
	...CF CF optics: 3,4 mm@ 50 mm (LT15/ LT15F)/ 2 mm@ 50 mm (LT20/ LT25F)/ head length: 32 mm	50
	<b>Cable length (head - electronics/ instead of 1 m standard length)</b>	
	...CB3 3 m head cable	20
...CB8 8 m head cable	50	
...CB15 15 m head cable	90	
OPTCT	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
	...LT02H <b>CThot:</b> -40-975 °C/ 8-14 µm/ 2:1 SF optics/ 250 °C Massive housing (D06ACCTMHS) included	590
	...LT10H <b>CThot:</b> -40-975°C/ 8-14 µm/ 10:1 SF optics/ 250 °C Massive housing (D06ACCTMHS) included	590
	<b>Optics (instead of SF optics)</b>	
	...CF1 CF1 optics: 3,0 mm@ 30 mm (for LT10H only)	0
	<b>Cable length (head - electronics/ instead of 3 m standard length)</b>	
...CB8H 8 m head cable	100	
...CB15H 15 m head cable	220	
OPTCT	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
	...G5L10 <b>CT G5L:</b> 100-1200 °C/ 5 µm/ 10:1 SF optics/ 85 °C	460
	...G5H20 <b>CT G5H:</b> 250-1650 °C/ 5 µm/ 20:1 SF optics/ 85 °C	460
	...P315 <b>CT P3:</b> 50-400 °C/ 3,43 µm/ 15:1 SF optics/ 75 °C Massive housing (D06ACCTMHS) included	870
	...P710 <b>CT P7:</b> 0-710 °C/ 7,9 µm/ 10:1 SF optics/ 85 °C Massive housing (D06ACCTMHS) included	605
	<b>Optics (instead of SF optics)</b>	
	...CF CF optics: 2,5 mm@ 50 mm (for G5H20 only)	50
	<b>Cable length (head - electronics/ instead of 3 m standard length)</b>	
...CB8 8 m head cable	50	
...CB15 15 m head cable	90	

Part-Number	Description	Price in €	
OPTCT	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>		
	...1ML	CT 1ML: 485-1050 °C/ 1,0 µm/ 40:1/ 100 °C	460
	...1MH	CT 1MH: 650-1800 °C/ 1,0 µm/ 75:1/ 100 °C	460
	...1MH1	CT 1MH1: 800-2200 °C/ 1,0 µm/ 75:1/ 100 °C	460
	...2ML	CT 2ML: 250-800 °C/ 1,6 µm/ 40:1/ 125 °C	460
	...2MH	CT 2MH: 385-1600 °C/ 1,6 µm/ 75:1/ 125 °C	460
	...2MH1	CT 2MH1: 490-2000 °C/ 1,6 µm/ 75:1/ 125 °C	460
		<b>Optics</b>	
	...SF	SF optics	0
	...CF	CF optics: 2,7 mm@ 110 mm (1ML/ 2ML)/ 1,5 mm@ 110 mm (1MH/ 1MH1/ 2MH/ 2MH1)	0
		<b>Cable length (head - electronics/ instead of 3 m standard cable)</b>	
...CB8	8 m head cable	50	
...CB15	15 m head cable	90	
OPTCT	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>		
	...3ML	CT 3ML: 50-400 °C/ 2,3 µm/ 22:1/ 85 °C	575
	...3MH	CT 3MH: 100-600 °C/ 2,3 µm/ 33:1/ 85 °C	460
	...3MH1	CT 3MH1: 150-1000 °C/ 2,3 µm/ 75:1/ 85 °C	460
	...3MH2	CT 3MH2: 200-1500 °C/ 2,3 µm/ 75:1/ 85 °C	460
	...3MH3	CT 3MH3: 250-1800 °C/ 2,3 µm/ 75:1/ 85 °C	460
		<b>Optics</b>	
	...SF	SF optics	0
	...CF1	CF1 optics: 1,5 mm@ 30 mm (3ML) / 1,0 mm@ 30 mm (3MH) / 0,4mm@ 30 mm (3MH1)/ head length: 32 mm	0
	...CF	CF optics: 5 mm@ 110 mm (3ML) / 3,4 mm@ 110 mm (3MH) / 1,5 mm@ 110 mm (3MH1 - 3MH3)	0
	OPTCT	<b>Temperature and Spectral range/ Optics/ max. Ambient temperature</b>	
...4ML		CT 4ML: 0-500 °C/ 2,2-6 µm/ 10:1/ 70 °C	650
		<b>Optics</b>	
...SF		SF optics	0
...CF		CF optics: 5 mm@ 50 mm	0
		<b>Cable length (head - electronics)</b>	
...CB3		3 m head cable	0
...CB8	8 m head cable	70	
...CB15	15 m head cable	140	

**CTex:** optris CT for use in hazardous locations according zone 1: PTB 01 ATEX 2053/  
E II (1/2) GD [EEx ia/ib] IIC/IIB, with additional Ex-box incl. two zener barriers and CT LT sensor  
(only for CT LT models; not CTfast)/ Delivery incl. Manufacturer's declaration for use in Ex zones.

Part-Number	Description	Price in €
<b>OPTCTEX</b>		
...LT02	<b>CTex LT02:</b> -50-600 °C/ 8-14 µm/ 2:1 SF optics/ 130 °C	<b>990</b>
...LT15	<b>CTex LT15:</b> -50-600 °C/ 8-14 µm/ 15:1 SF optics/ 180 °C	<b>1,045</b>
...LT20	<b>CTex LT22:</b> -50-975 °C/ 8-14 µm/ 22:1 SF optics/ 180 °C	<b>1,060</b>
	<b>Optics (instead of SF optics)</b>	
...CF	CF optics: 3,4 mm@ 50 mm (LT15)/ 2 mm@ 50 mm (LT20)/ head length: 32 mm	<b>50</b>
	<b>Cable length (head - electronics)</b>	
...CB3	3 m head cable	<b>0</b>
...CB8	8 m head cable	<b>50</b>
...CB15	15 m head cable	<b>90</b>
...LT02H	<b>CTex hot:</b> -40-975 °C/ 8-14 µm/ 2:1 SF optics/ 250 °C	<b>1,355</b>
...LT10H	<b>CTex hot:</b> -40-975°C/ 8-14 µm/ 10:1 SF optics/ 250 °C	<b>1,355</b>
	<b>Optics (instead of SF optics)</b>	
...CF1	CF1 optics: 3,0 mm@ 30 mm (for LT10H only)	<b>0</b>
	<b>Cable length (head - electronics)</b>	
...CB3H	3 m head cable for CTex hot	<b>0</b>
...CB8H	8 m head cable for CTex hot	<b>100</b>
...CB15H	15 m head cable for CTex hot	<b>220</b>

High performance IR thermometer with double laser spot marking, Stainless steel housing (M 48x1,5), Analog output 4-20 mA (current loop), Alarm output, programmable functional input

**Scope of supply:** CSlaser incl. mounting nut and mounting bracket (ACCTLFBT), Operators manual

Part-Number	Description	Price in €
	<b>Temperature and Spectral range/ Optical resolution (D:S)</b>	
	<b>Focus versions</b>	
OPTCSL ...LT	<b>CSlaser LT:</b> -30-1000 °C/ 8-14 µm/ 50:1	<b>490</b>
...HSLT	<b>CSlaser hs LT:</b> -20-150 °C/ 8-14 µm/ 50:1	<b>960</b>
	Temperature resolution: <b>0,025 K</b> , incl. Certificate of calibration	
...SF	24 mm@ 1200 mm	0
...CF1	1,4 mm@ 70 mm	0
...CF2	3 mm@ 150 mm	0
...CF3	4 mm@ 200 mm	0
...CF4	9 mm@ 450 mm	0
...2ML	<b>CSlaser 2ML:</b> 250-800 °C/ 1,6 µm/ 150:1	<b>560</b>
...FF	24 mm@ 3600 mm	0
...SF	7,3 mm@ 1100 mm	0
...CF2	1 mm@ 150 mm	0
...CF3	1,3 mm@ 200 mm	0
...CF4	3 mm@ 450 mm	0
...2MH	<b>CSlaser 2MH:</b> 385-1600 °C/ 1,6 µm/ 300:1	<b>560</b>
...FF	12 mm@ 3600 mm	0
...SF	3,7 mm@ 1100 mm	0
...CF2	0,5 mm@ 150 mm	0
...CF3	0,7 mm@ 200 mm	0
...CF4	1,5 mm@ 450 mm	0
	<b>NOTE</b>	
	A connection cable is not included in the scope of delivery.	

Options

...C	<b>Connector-Version</b> Sensor backplane with 7-pin-connector We recommend a suitable connection cable (see accessories). The connector version is needed for an installation of the sensor in the CoolingJacket Advanced.	<b>25</b>
...N	<b>only for CSlaser hs LT</b> Certificate of calibration - traceable to NIST transfer standards (instead of Certificate of calibration/ PTB)	<b>190</b>

Part-Number	Description	Price in €
<b>Cables for connector version (7-pin-connector - open ends)</b>		
<b>ACCSLCB3C</b>	3 m head cable with connector	<b>50</b>
<b>ACCSLCB3HC</b>	3 m high temperature head cable with connector	<b>90</b>
<b>ACCSLCB3FC</b>	3 m head cable with connector suitable for cable carriers	<b>95</b>
<b>ACCSLCB8C</b>	8 m head cable with connector	<b>80</b>
<b>ACCSLCB8HC</b>	8 m high temperature head cable with connector	<b>160</b>
<b>ACCSLCB8FC</b>	8 m head cable with connector suitable for cable carriers	<b>170</b>
<b>ACCSLCB15C</b>	15 m head cable with connector	<b>120</b>
<b>ACCSLCB15HC</b>	15 m high temperature head cable with connector	<b>250</b>
<b>ACCSLCB15FC</b>	15 m head cable with connector suitable for cable carriers	<b>280</b>
	<b>NOTE</b>	
	If a high temperature cable + connector version is ordered, the cable gland for the CoolingJacket is already installed on the cable.	
<b>ACCSLCONK</b>	<b>Connector-Kit:</b> for a subsequent conversion of a standard CSlaser sensor into the connector version (sensor backplane with connector and blank cap for the cable gland)	<b>60</b>

High performance IR thermometer with double laser spot marking, Stainless steel sensing head (M 48x1,5) and separate configurable electronics, Analog outputs (selectable: 0/4-20 mA, 0-5 V, 0-10 V, thermocouple), Digital interfaces optional (alternatively USB, RS232, RS485, Modbus RTU, Profibus DP, Ethernet)

**Scope of supply:** CTlaser incl. mounting nut and mounting bracket (ACCTLFBT), 3m head cable (standard), Electronic box with LCD display and programming keys, Operators manual/ CTlaser 4ML: USB-C cable incl. adapter for USB-A

Part-Number	Description	Price in €
<b>Temperature and Spectral range/ Optics (D:S)/ Response time</b>		
<b>Focus versions</b>		
<b>OPTCTL</b>	<b>...LT</b> <b>CTlaser LT: -50-975 °C/ 8-14 µm/ 75:1/ 120 ms</b>	<b>690</b>
	...SF 16 mm@ 1200 mm	0
	...CF1 0,9 mm@ 70 mm	0
	...CF2 1,9 mm@ 150 mm	0
	...CF3 2,75 mm@ 200 mm	0
	...CF4 5,9 mm@ 450 mm	0
	<b>...LTF</b> <b>CTlaser F: -50-975 °C/ 8-14 µm/ 50:1/ 9 ms</b>	<b>765</b>
	...SF 24 mm@ 1200 mm	0
	...CF1 1,4 mm@ 70 mm	0
	...CF2 3 mm@ 150 mm	0
	...CF3 4 mm@ 200 mm	0
	...CF4 9 mm@ 450 mm	0
	<b>...05M</b> <b>CTlaser 05M: 1000-2000 °C/ 525 nm/ 150:1/ 1 ms</b>	<b>985</b>
	...SF 7,3 mm@ 1100 mm	0
	...FF 24 mm@ 3600 mm	0
	<b>...1ML</b> <b>CTlaser 1ML: 485-1050 °C/ 1,0 µm/ 150:1/ 1 ms</b>	<b>760</b>
	<b>...2ML</b> <b>CTlaser 2ML: 250-800 °C/ 1,6 µm/ 150:1/ 1 ms</b>	<b>760</b>
	...FF 24 mm@ 3600 mm	0
	...SF 7,3 mm@ 1100 mm	0
	...CF2 1 mm@ 150 mm	0
	...CF3 1,3 mm@ 200 mm	0
	...CF4 3 mm@ 450 mm	0
	<b>...1MH</b> <b>CTlaser 1MH: 650-1800 °C/ 1,0 µm/ 300:1/ 1 ms</b>	<b>760</b>
	<b>...1MH1</b> <b>CTlaser 1MH1: 800-2200 °C/ 1,0 µm/ 300:1/ 1 ms</b>	<b>760</b>
	<b>...2MH</b> <b>CTlaser 2MH: 385-1600 °C/ 1,6 µm/ 300:1/ 1 ms</b>	<b>760</b>
	<b>...2MH1</b> <b>CTlaser 2MH1: 490-2000 °C/ 1,6 µm/ 300:1/ 1 ms</b>	<b>760</b>
	...FF 12 mm@ 3600 mm	0
	...SF 3,7 mm@ 1100 mm	0
	...CF2 0,5 mm@ 150 mm	0
	...CF3 0,7 mm@ 200 mm	0
	...CF4 1,5 mm@ 450 mm	0
	<b>...3ML</b> <b>CTlaser 3ML: 50-400 °C/ 2,3 µm/ 60:1/ 1 ms</b>	<b>875</b>
	...FF 60 mm @ 3600 mm	0
	...SF 18,3 mm@ 1100 mm	0
	...CF1 1,4 mm@ 85 mm	0
	...CF2 2,5 mm@ 150 mm	0
	...CF3 3,3 mm@ 200 mm	0
	...CF4 7,5 mm@ 450 mm	0

Part-Number	Description	Price in €
<b>OPTCTL</b>		
...3MH	<b>CTlaser 3MH:</b> 100-600 °C/ 2,3 µm/ 100:1/ 1 ms	<b>760</b>
...FF	36 mm@ 3600 mm	0
...SF	11 mm@ 1100 mm	0
...CF1	0,85 mm@ 85 mm	0
...CF2	1,5 mm@ 150 mm	0
...CF3	2 mm@ 200 mm	0
...CF4	4,5 mm@ 450 mm	0
...3MH1	<b>CTlaser 3MH1:</b> 150-1000 °C/ 2,3 µm/ 300:1/ 1 ms	<b>760</b>
...3MH2	<b>CTlaser 3MH2:</b> 200-1500 °C/ 2,3 µm/ 300:1/ 1 ms	<b>760</b>
...3MH3	<b>CTlaser 3MH3:</b> 250-1800 °C/ 2,3 µm/ 300:1/ 1 ms	<b>760</b>
...FF	12 mm@ 3600 mm	0
...SF	3,7 mm@ 1100 mm	0
...CF1	0,3 mm@ 85 mm	0
...CF2	0,5 mm@ 150 mm	0
...CF3	0,7 mm@ 200 mm	0
...CF4	1,5 mm@ 450 mm	0
...4ML	<b>CTlaser 4ML:</b> 0-500 °C/ 2,2-6 µm/ 30:1/ 300 µs	<b>950</b>
...FF	120 mm@ 3600 mm	0
...SF	36,7 mm@ 1100 mm	0
...CF1	2,4 mm@ 70 mm	0
...CF2	5 mm@ 150 mm	0
...CF3	6,7 mm@ 200 mm	0
...CF4	15 mm@ 450 mm	0
	<b>Cable length (head - electronics)</b>	
...CB3	3 m head cable (other lengths - see options)	0
...MT	<b>CTlaser MT:</b> 200-1450 °C/ 3,9 µm/ 45:1/ 10 ms	<b>785</b>
...MTH	<b>CTlaser MTH:</b> 400-1650 °C/ 3,9 µm/ 45:1/ 10 ms	<b>785</b>
...SF	27 mm@ 1200 mm	0
...CF1	1,6 mm@ 70 mm	0
...CF2	3,4 mm@ 150 mm	0
...CF3	4,5 mm@ 200 mm	0
...CF4	10 mm@ 450 mm	0
...F2	<b>CTlaser F2:</b> 200-1450 °C/ 4,24 µm (CO <sub>2</sub> )/ 45:1/ 10 ms	<b>1,190</b>
...F2H	<b>CTlaser F2H:</b> 400-1650 °C/ 4,24 µm (CO <sub>2</sub> )/ 45:1/ 10 ms	<b>1,190</b>
...SF	27 mm@ 1200 mm	0
...CF1	1,6 mm@ 70 mm	0
...CF2	3,4 mm@ 150 mm	0
...CF3	4,5 mm@ 200 mm	0
...CF4	10 mm@ 450 mm	0
...F6	<b>CTlaser F6:</b> 200-1450 °C/ 4,64 µm (CO)/ 45:1/ 10 ms	<b>1,190</b>
...F6H	<b>CTlaser F6H:</b> 400-1650 °C/ 4,64 µm (CO)/ 45:1/ 10 ms	<b>1,190</b>
...SF	27 mm@ 1200 mm	0
...CF1	1,6 mm@ 70 mm	0
...CF2	3,4 mm@ 150 mm	0
...CF3	4,5 mm@ 200 mm	0
...CF4	10 mm@ 450 mm	0

Part-Number	Description	Price in €
OPTCTL	<b>...G5L</b> CTlaser G5L: 100-1200 °C/ 5 µm/ 45:1/ 120 ms	785
	...SF 27 mm@ 1200 mm	0
	...CF1 1,6 mm@ 70 mm	0
	...CF2 3,4 mm@ 150 mm	0
	...CF3 4,5 mm@ 200 mm	0
	...CF4 10 mm@ 450 mm	0
	<b>...G5H</b> CTlaser G5H: 250-1650 °C/ 5 µm/ 70:1/ 80 ms	785
	...SF 17 mm@ 1200 mm	0
	...CF1 1 mm@ 70 mm	0
	...CF2 2,2 mm@ 150 mm	0
	...CF3 2,9 mm@ 200 mm	0
	...CF4 6,5 mm@ 450 mm	0
	...G5HF CTlaser G5HF: 200-1450 °C/ 5 µm/ 45:1/ 10 ms	785
	...G5H1F CTlaser G5H1F: 400-1650 °C/ 5 µm/ 45:1/ 10 ms	785
	...SF 27 mm@ 1200 mm	0
	...CF1 1,6 mm@ 70 mm	0
	...CF2 3,4 mm@ 150 mm	0
	...CF3 4,5 mm@ 200 mm	0
	...CF4 10 mm@ 450 mm	0
	...P7 CTlaser P7: 0-710 °C/ 7,9 µm/ 45:1/ 150 ms	785
	...SF 27 mm@ 1200 mm	0
	...CF1 1,6 mm@ 70 mm	0
	...CF2 3,4 mm@ 150 mm	0
	...CF3 4,5 mm@ 200 mm	0
	...CF4 10 mm@ 450 mm	0
	...G7 CTlaser G7: 100-1200 °C/ 7,9 µm/ 45:1/ 150 ms	785
	...SF 27 mm@ 1200 mm	0
	...CF1 1,6 mm@ 70 mm	0
	...CF2 3,4 mm@ 150 mm	0
	...CF3 4,5 mm@ 200 mm	0
	...CF4 10 mm@ 450 mm	0

## Options

	<b>Cable length (head - electronics/ instead of 3 m standard cable)</b>	
...CB3H	3 m high temperature head cable	45
...CB3F	3 m head cable suitable for cable carriers	50
...CB8	8 m head cable, standard	50
...CB8H	8 m high temperature head cable	120
...CB8F	8 m head cable suitable for cable carriers	130
...CB15	15 m head cable, standard	90
...CB15H	15 m high temperature head cable	210
...CB15F	15 m head cable suitable for cable carriers	240
	<b>Connector - Version</b>	
...C	Sensor backplane and cable, each with connector (7-pin) The connector version is needed for an installation of the sensor in the CoolingJacket Advanced.	65

**NOTE**

If a high temperature cable + connector version is ordered, the cable gland for the CoolingJacket is already installed on the cable.

Part-Number	Description	Price in €
<b>Cables for connector version (7-pin-connector - open ends)</b>		
<b>ACCTLCONK</b>	<b>Connector-Kit:</b> for a subsequent conversion of a standard CTlaser sensor into the connector version (sensor backplane with connector and blank cap for the cable gland)  <b>Connection cable for a subsequent conversion of a standard sensor into the connector version</b>	<b>60</b>
<b>ACCTLCB3C</b>	3 m head cable with connector	<b>50</b>
<b>ACCTLCB3HC</b>	3 m high temperature head cable with connector	<b>90</b>
<b>ACCTLCB3FC</b>	3 m head cable with connector suitable for cable carriers	<b>95</b>
<b>ACCTLCB8C</b>	8 m head cable with connector	<b>80</b>
<b>ACCTLCB8HC</b>	8 m high temperature head cable with connector	<b>160</b>
<b>ACCTLCB8FC</b>	8 m head cable with connector suitable for cable carriers	<b>170</b>
<b>ACCTLCB15C</b>	15 m head cable with connector	<b>120</b>
<b>ACCTLCB15HC</b>	15 m high temperature head cable with connector	<b>250</b>
<b>ACCTLCB15FC</b>	15 m head cable with connector suitable for cable carriers	<b>280</b>

High performance IR thermometer with variable focus, video sighting and cross hair laser sighting, Stainless steel housing (M 48x1,5), Analog output 4-20 mA (current loop), Alarm output, USB interface, programmable functional input, Connectors on the backside: 7-pin (analog/ alarm) and 4-pin (USB)

**Scope of supply:** CSvideo incl. mounting nut and mounting bracket (ACCTLFBT), USB cable (5m), Software CompactConnect, Operators manual

Part-Number	Description	Price in €
	<b>Temperature and Spectral range/ Optical resolution (D:S)</b>	
	<b>Focus versions</b>	
OPTCSV ...2ML	CSvideo 2ML: 250-800 °C/ 1,6 µm/ 150:1	1,240
...2MH	CSvideo 2MH: 385-1600 °C/ 1,6 µm/ 300:1	1,240
...3ML	CSvideo 3ML: 50-350 °C/ 2,3 µm/ 60:1	1,340
...3MH	CSvideo 3MH: 100-600 °C/ 2,3 µm/ 100:1	1,240
	<b>Optics</b>	
...SFV	SF vario optics: focusable from 200 mm to infinity	0
...CFV	CF vario optics: focusable from 90 mm to 250 mm	0

**NOTE**

A connection cable (analog and alarm output) is not included in the scope of delivery and must be ordered separately.

An USB cable (5m) is included in the scope of delivery.

**Cables (analog and alarm output/ 7-pin connector - open ends)**

ACCSLCB3C	3 m head cable with connector	50
ACCSLCB3HC	3 m high temperature head cable with connector	90
ACCSLCB3FC	3 m head cable with connector suitable for cable carriers	95
ACCSLCB8C	8 m head cable with connector	80
ACCSLCB8HC	8 m high temperature head cable with connector	160
ACCSLCB8FC	8 m head cable with connector suitable for cable carriers	170
ACCSLCB15C	15 m head cable with connector	120
ACCSLCB15HC	15 m high temperature head cable with connector	250
ACCSLCB15FC	15 m head cable with connector suitable for cable carriers	280

**NOTE**

If a high temperature cable is ordered, the cable gland for the CoolingJacket is already installed on the cable.

**IR App Connector (compatible with IRmobile Android app)**

ACPIIACM	IR App Connector for CSvideo with Micro-USB plug, 45 cm cable	40
ACPIIACC	IR App Connector for CSvideo with USB-C plug, 45 cm cable	40

**Cables (USB/ 4-pin connector - USB connector type A)**

ACPIUSB5PCB5H2	High temperature USB cable (250 °C), 5 m	210
ACPIUSB5PCB10	USB cable, 10 m	195
ACPIUSB5PCB10H2	High temperature USB cable (250 °C), 10 m	395
	<b>Options</b>	
...RC	Right angle connector (not combinable with CG2 option)	90
...CG2	Pre-installed cable gland M25x1,5 for usage with CoolingJacket Advanced (max. $\varnothing$ : 1x8 mm or 1x5,8 mm)	10

High performance IR thermometer with variable focus, video sighting and cross hair laser sighting, Stainless steel sensing head (M 48x1,5) and separate configurable electronics, Analog outputs (selectable: 0/4-20 mA, 0-5 V, 0-10 V, thermocouple), USB interface, Connectors on the head: Standard version: 12-pin (sensor signals/ laser/ video) or HT version: 7-pin (sensor signals/ laser) and 4-pin (video)

**Scope of supply:** CTvideo incl. mounting nut and mounting bracket (ACCTLFBT), 3m head cable (standard), Electronic box with LCD display and programming keys, Software CompactConnect, USB cable (5m), Operators manual

Part-Number	Description	Price in €
	<b>Temperature and Spectral range/ Optics (D:S)/ Response time</b>	
	<b>Focus versions</b>	
OPTCTV ...1ML	<b>CTvideo 1ML:</b> 485-1050 °C/ 1,0 µm/ 150:1/ 1 ms	1,290
...1MH	<b>CTvideo 1MH:</b> 650-1800 °C/ 1,0 µm/ 300:1/ 1 ms	1,290
...1MH1	<b>CTvideo 1MH1:</b> 800-2200 °C/ 1,0 µm/ 300:1/ 1 ms	1,290
...2ML	<b>CTvideo 2ML:</b> 250-800 °C/ 1,6 µm/ 150:1/ 1 ms	1,290
...2MH	<b>CTvideo 2MH:</b> 385-1600 °C/ 1,6 µm/ 300:1/ 1 ms	1,290
...2MH1	<b>CTvideo 2MH1:</b> 490-2000 °C/ 1,6 µm/ 300:1/ 1 ms	1,290
...3ML	<b>CTvideo 3ML:</b> 50-400 °C/ 2,3 µm/ 60:1/ 1 ms	1,390
...3MH	<b>CTvideo 3MH:</b> 100-600 °C/ 2,3 µm/ 100:1/ 1 ms	1,290
...3MH1	<b>CTvideo 3MH1:</b> 150-1000 °C/ 2,3 µm/ 300:1/ 1 ms	1,290
...3MH2	<b>CTvideo 3MH2:</b> 200-1500 °C/ 2,3 µm/ 300:1/ 1 ms	1,290
...3MH3	<b>CTvideo 3MH3:</b> 250-1800 °C/ 2,3 µm/ 300:1/ 1 ms	1,290
	<b>Optics</b>	
...SFV	SF vario optics: focusable from 200 mm to infinity	0
...CFV	CF vario optics: focusable from 90 mm to 250 mm	0
	<b>Cable length head - electronics (standard/ 80°C)</b>	
	<b>12-pin connector on head side</b>	
...CB3C	3 m head cable, standard	0
...CB5C	5 m head cable, standard	30
...CB10C	10 m head cable, standard	60
	<b>Cable length head - electronics (high temperature/ 180°C)</b>	
	<b>7-pin connector (sensor signals/ laser) on the head side and</b>	
	<b>4-pin connector (video) on the head side</b>	
...CB3HC	3 m head cable, HT <b>and</b> 3 m video cable, HT	235
...CB5HC	5 m head cable, HT <b>and</b> 5m video cable, HT	390
...CB10HC	10 m head cable, HT <b>and</b> 10 m video cable, HT	570

**NOTE**

If a high temperature cable is ordered, the cable gland for the CoolingJacket is already installed on the cable.

Rugged ratio pyrometer with motorized vario focus, crosshair laser and video sighting,  
Analog outputs (2x 0/4-20 mA), Programmable I/O Pin, Status LED, USB, RS485 and Modbus RTU interface

**Scope of supply:** CSvision incl. mounting nut, mounting bracket, USB cable (USB-C, 1,5 m, USB-A adapter),  
Connection cable (7-pin, 3 m, with terminal block), USB stick with CompactPlus Connect software,  
Operators manual

Part-Number	Description	Price in €
	<b>Temperature range (two color mode)/ Spectral range/ Optical resolution</b>	
OPTCSVI ...R1ML	CSvision R1ML: 600-1800 °C/ 0,8-1,1 µm/ 100:1	2,150
...R1MH	CSvision R1MH: 1000-3000 °C/ 0,8-1,1 µm/ 150:1	2,150
...R1MH1	CSvision R1MH1: 1000-3500 °C/ 0,8-1,1 µm/ 150:1	2,650
...R2ML	CSvision R2ML: 300-1400 °C/ 1,35-1,75 µm/ 75:1	2,850
	<b>Optics</b>	
...SFV	SF vario optics: focusable from 350 mm to infinity	0
...CFV	CF vario optics: focusable from 200 mm to 400 mm	0

**Options**

...I	Isolated RS485/ Modbus RTU interface	50
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**Cables (Analog output, I/O pin, RS485, Modbus RTU, Interface box/ 7-pin cable socket - terminal block)**

ACCSVICB3C	3 m head cable with connector (included in scope of supply)	55
ACCSVICB3HC	3 m high temperature head cable with connector	95
ACCSVICB3FC	3 m head cable with connector suitable for cable carriers	100
ACCSVICB8C	8 m head cable with connector	85
ACCSVICB8HC	8 m high temperature head cable with connector	165
ACCSVICB8FC	8 m head cable with connector suitable for cable carriers	175
ACCSVICB15C	15 m head cable with connector	125
ACCSVICB15HC	15 m high temperature head cable with connector	255
ACCSVICB15FC	15 m head cable with connector suitable for cable carriers	285

**Cables (USB/ 4-pin cable socket - USB-A-connector)**

ACPIUSB5PCB3	USB cable, 3 m	60
ACPIUSB5PCB5	USB cable, 5 m	80
ACPIUSB5PCB5H2	High temperature USB cable (250 °C), 5 m	210
ACPIUSB5PCB10	USB cable, 10 m	195
ACPIUSB5PCB10FO	USB cable, 10 m, suitable for cable carriers and outdoor applications	375
ACPIUSB5PCB10H2	High temperature USB cable (250 °C), 10 m	395
	<b>Options</b>	
...RC	Right angle connector (not combinable with CG options)	90
...CG2	Pre-installed cable gland M25x1,5 for usage with CoolingJacket Advanced (max. ø: 1x8 mm or 1x5,8 mm)	10

Rugged fiber-optic ratio pyrometer with built-in laser spot marking, Stainless steel optical head (M18) with vario focus, and separate, configurable electronics, Analog outputs (2x 0/4-20 mA), Built-in USB interface, Optional digital interfaces (RS232, RS485, Modbus RTU, Ethernet)

**Scope of supply:** CTratio incl. mounting nut, Mounting bracket (ACCTFBMH), Fiber cable, Optical sensing head, Electronic box with LCD display and programming keys, USB-C cable (incl. adapter for USB-A), USB stick with CompactPlus Connect software, Operators manual

Part-Number	Description	Price in €
	<b>Temperature range (two color mode)/ Spectral range/ Optical resolution</b>	
<b>OPTCTRF</b> ...1ML	CTratio 1ML: 450 (525)-1400 °C/ 0,8-1,1 µm/ 38:1	<b>1,950</b>
...1MH	CTratio 1MH: 650 (700)-2000 °C/ 0,8-1,1 µm/ 100:1	<b>1,950</b>
...1MH1	CTratio 1MH1: 900 (1000)-3000 °C/ 0,8-1,1 µm/ 100:1	<b>1,950</b>
...2ML	CTratio 2ML: 250 (275)-1000 °C/ 1,45-1,75 µm/ 38:1	<b>2,650</b>
...2MH	CTratio 2MH: 375 (400)-1500 °C/ 1,45-1,75 µm/ 100:1	<b>2,650</b>
...2MH1	CTratio 2MH1: 500 (550)-3000 °C/ 1,45-1,75 µm/ 100:1	<b>2,650</b>
	<b>Optics</b>	
...SFV	SF vario optics: focusable from 300 mm to infinity	<b>0</b>
...CFV	CF vario optics: focusable from 150 mm to 350 mm	<b>0</b>
	<b>Fiber cable length (Tamb max. 200 °C)</b>	
...FC3	3 m fiber cable (standard)	<b>0</b>
...FC8	8 m fiber cable	<b>450</b>
...FC15	15 m fiber cable	<b>1,100</b>

**Options**

...H	High temperature fiber cable and optical head (Tamb max. 315 °C)	<b>180</b>
...I	Isolated analog outputs	<b>200</b>

**Spare fibers (incl. optical head and adjustment with main unit)**

*For a fast field exchange max. two spare fibers including optical sensing head can be ordered together with the main CTratio unit. As they will be adjusted together with the CTratio a subsequent order of spare fibers is not possible.*

	<b>Temperature range (two color mode)/ Optical resolution</b>	
<b>ACCTRF</b> ...1ML	CTratio 1ML spare fiber incl. head: 450 (525)-1400 °C/ 38:1	<b>1,050</b>
...1MH	CTratio 1MH spare fiber incl. head: 650 (700)-2000 °C/ 100:1	<b>1,050</b>
...1MH1	CTratio 1MH1 spare fiber incl. head: 900 (1000)-3000 °C/ 100:1	<b>1,050</b>
...2ML	CTratio 2ML spare fiber incl. head: 250 (275)-1000 °C/ 38:1	<b>1,180</b>
...2MH	CTratio 2MH spare fiber incl. head: 375 (400)-1500 °C/ 100:1	<b>1,180</b>
...2MH1	CTratio 2MH1 spare fiber incl. head: 500 (550)-3000 °C/ 100:1	<b>1,180</b>
	<b>Optics</b>	
...SFV	SF vario optics: focusable from 300 mm to infinity	<b>0</b>
...CFV	CF vario optics: focusable from 150 mm to 350 mm	<b>0</b>
	<b>Spare fiber cable length (Tamb max. 200 °C)</b>	
...FC3	3 m spare fiber cable (standard)	<b>0</b>
...FC8	8 m spare fiber cable	<b>450</b>
...FC15	15 m spare fiber cable	<b>1,100</b>

**Options**

...H	High temperature spare fiber cable and optical head (Tamb max. 315 °C)	<b>180</b>
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Compact spot finder IR camera series with Ethernet (Xi 80/ 410/ xM) and USB 2.0 interface, Direct analog OUT and analog/ digital IN (Xi 80/ 410/ xM) or Process interface with analog OUT and IN and digital IN (Xi 400/ 640), selectable lenses, IP 67

**Scope of supply:** Xi camera with lens (selectable), 1m USB cable, 1m Ethernet cable with PoE adapter (Xi 410/ xM)<sup>1)</sup>, I/O RS485 cable (Xi 80/ 410/ xM) with terminal block or Standard Process interface cable (Xi 400/ 640) with terminal block, Mounting bracket and nut, Software package PIX Connect, Quick start guide  
T010 model: additional Calibration cert. (reference temp.: 35 °C)

<sup>1)</sup> An Ethernet patch cable is not included.

Part-Number	Description	Price in €
<b>OPTXI</b>		
...80LT	<b>optris Xi 80 LT ETH:</b> 80x80 px, 50 Hz, 8-14 µm, 100 mK NETD, Ethernet, USB 2.0, Autonomous operation	<b>940</b>
...40LT	<b>optris Xi 400 LT USB:</b> 382x288 px, 80 Hz, switchable to 27 Hz, 8-14 µm, 50 mK NETD, USB 2.0	<b>1,950</b>
...41LT	<b>optris Xi 410 LT ETH:</b> 384x240 px, 25 Hz, 8-14 µm, 60 mK NETD, Ethernet, USB 2.0 (4 Hz), Autonomous operation (1,5 Hz)	<b>2,450</b>
...32MT	<b>optris Xi 320 MT ETH:</b> 320x240 px, 30 Hz, 3,9 µm, 1 K NETD, Ethernet, USB 2.0	<b>3,900</b>
...64LT	<b>optris Xi 640 LT USB:</b> 640x480 px, 32 Hz, 8-14 µm, 80 mK NETD, USB 2.0, max. operating temperature <b>60 °C</b>	<b>5,800</b>
...1M	<b>optris Xi 1M ETH:</b> 396x300 px, 20 Hz, 396x8 px (auton.: 396x1 px), 500 Hz, 0,85-1,1 µm, Ethernet, USB 2.0 (only 20 Hz), Auton. operation	<b>2,450</b>
...05M	<b>optris Xi 05M ETH:</b> 396x300 px, 20 Hz, 396x8 px (auton.: 396x1 px), 500 Hz, 500-540 nm, Ethernet, USB 2.0 (only 20 Hz), Auton. operation	<b>2,900</b>
<b>DDPXI</b>		
...80LT	<b>optris Xi 80 LT ETH:</b> 80x80 px, 50 Hz, Ethernet, USB 2.0, with long pass filter for CO <sub>2</sub> laser applications	<b>1,790</b>
...40LT	<b>optris Xi 400 LT USB:</b> 382x288 px, 80 Hz, switchable to 27 Hz, USB 2.0, with long pass filter for CO <sub>2</sub> laser applications	<b>2,930</b>
...41LT	<b>optris Xi 410 LT ETH:</b> 384x240 px, 25 Hz, Ethernet, USB 2.0 (4 Hz), with long pass filter for CO <sub>2</sub> laser applications	<b>3,430</b>
	<b>Selectable lenses for Xi 80/ DDP</b>	
...F13	f=12,7 mm/ 12° x 12° lens	<b>0</b>
...F05	f=5,1 mm/ 30° x 30° lens	<b>0</b>
...F03	f=3,1 mm/ 55° x 55° lens	<b>0</b>
...F02	f=2,3 mm/ 80° x 80° lens	<b>0</b>
	<b>Selectable lenses for Xi 400/ DDP</b>	
...F20	f=20 mm/ 18° x 14° lens	<b>0</b>
...F13	f=12,7 mm/ 29° x 22° lens	<b>0</b>
...F08	f=7,7 mm/ 53° x 38° lens	<b>0</b>
...F06	f=5,7 mm/ 80° x 54° lens	<b>0</b>
...F20CF	<b>Xi 400 Macro lens:</b> Xi 400 with macro lens f=20 mm/ 18° x 14° for working distance 90-110 mm/ Min. spot (IFOV): <b>81 µm</b>	<b>0</b>
...F20CFK	<b>Xi 400 Macro lens kit:</b> Xi 400 with macro lens f=20 mm/ 18° x 14° for working distance 90-110 mm/ Min. spot (IFOV): <b>81 µm/</b> Xi macro lens stand with ESD pad included	<b>120</b>
	<b>Selectable lenses for Xi 410 LT/ DDP</b>	
...F20	f=20 mm/ 18° x 12° lens	<b>0</b>
...F13	f=12,7 mm/ 29° x 18° lens	<b>0</b>
...F08	f=7,7 mm/ 53° x 31° lens	<b>0</b>
...F06	f=5,7 mm/ 80° x 44° lens	<b>0</b>

Part-Number	Description	Price in €
	<b>Selectable lenses for Xi 320 MT</b>	
...O11	11° x 8° lens/ f=20 mm	0
...O17	17° x 13° lens/ f=13 mm	0
...O29	29° x 21° lens/ f=8 mm	0
...O41	41° x 30° lens/ f=6 mm	0
	<b>Selectable lenses for Xi 640</b>	
...O22	22° x 17° lens/ f=20 mm	0
...O36	36° x 26° lens/ f=12,7 mm	0
...O65	65° x 45° lens/ f=7,7 mm	0
	<b>Selectable lenses for Xi 1M</b>	
...O7SF	7° x 5° lens/ f=50 mm (800 mm to infinity)	0
...O7CF	7° x 5° lens/ f=50 mm (400 mm to 800 mm)	0
...O14	14° x 10° lens/ f=25 mm	0
...O28	28° x 21° lens/ f=12 mm	0
...O50	50° x 38° lens/ f=7 mm	0
	<b>Selectable lenses for Xi 05M</b>	
...O14	14° x 10° lens/ f=25 mm	0
...O28	28° x 21° lens/ f=12 mm	0
	<b>Temperature ranges for Xi 80/ 400/ 410 LT/ 640/ DDP</b>	
...T090	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	0
	<b>Temperature ranges for Xi 400</b>	
...T010	-20-100 °C (not for Macro lens)	0
	<b>Temperature ranges for Xi 400/ DDP</b>	
...T150	200-1500 °C/ incl. the basic ranges according T090	900
	<b>Temperature ranges for Xi 410 LT</b>	
...T150	200-1500 °C/ incl. -20-100 °C/ 0-250 °C	900
	<b>Temperature ranges for Xi 320 MT</b>	
...T170	475-1700 °C	0
	<b>Temperature ranges for Xi 1M</b>	
...T180	450-1800 °C (20 Hz)/ 550-1800 °C (500 Hz) for O7SF and O7CF lenses: 525-1800 °C (20 Hz)/ 575-1800 °C (500 Hz)	0
	<b>Temperature range for Xi 05M</b>	
...T245	900-2450 °C	0

Online infrared imager series with USB 2.0 interface, Process interface (analog output and input and digital input), selectable and exchangeable lenses, Environmental protection IP 67

**Scope of supply:** PI camera, one selectable lens, 1 m USB cable, Table tripod, Process interface cable incl. terminal block, Software package PIX Connect, Carrying case Alu (PI400i/ 1M/ 08M/ 05M) or Rugged outdoor case, IP67 (PI 450i/ 640i) or Microscope Accessory case (for MO44, MO2X), Operators manual

**MO44 optics:** Microscope stand incl. base plate with ESD pad (no Table tripod)

**MO2X optics:** Premium microscope stand with coarse and fine drive, Base plate with ESD pad (no Table tripod)

**T010 model:** additional Calibration certificate (reference temp.: 35 °C)

Part-Number	Description	Price in €
<b>OPTPI</b>		
...40ILT	<b>optris PI 400i:</b> 382x288 px, 80 Hz, switchable to 27 Hz	<b>3,950</b>
...45ILT	<b>optris PI 450i:</b> 382x288 px, 80 Hz, switchable to 27 Hz, thermal resolution <b>40mK</b> , max. operating temperature <b>70°C</b>	<b>4,850</b>
...45IG7	<b>optris PI 450i G7:</b> 382x288 px, 80 Hz, switchable to 27 Hz, Spectral range: <b>7,9 µm</b> , max. operating temperature <b>70°C</b>	<b>5,850</b>
...64ILT	<b>optris PI 640i:</b> 640x480 px @ 32 Hz/ 640x120 px @ 125 Hz max. operating temperature <b>70°C</b>	<b>6,800</b>
...64IG7	<b>optris PI 640i G7:</b> 640x480 px @ 32 Hz/ 640x120 px @ 125 Hz Spectral range: <b>7,9 µm</b> , max. operating temperature <b>70°C</b>	<b>7,800</b>
...1M	<b>optris PI 1M:</b> 764x480 px @ 32 Hz/ 382x288 px @ 80 Hz (switchable to 27 Hz)/ 72x56 px/ 764x8 px @ 1 kHz Spectral range: <b>0,85-1,1 µm</b>	<b>3,150</b>
...08M	<b>optris PI 08M:</b> 764x480 px @ 32 Hz/ 382x288 px @ 80 Hz (switchable to 27 Hz)/ 72x56 px/ 764x8 px @ 1 kHz Spectral range: <b>780-820 nm</b>	<b>3,850</b>
...05M	<b>optris PI 05M:</b> 764x480 px @ 32 Hz/ 382x288 px @ 80 Hz (switchable to 27 Hz)/ 72x56 px/ 764x8 px @ 1 kHz Spectral range: <b>500-540 nm</b>	<b>3,700</b>
<b>DBRPI</b>		
...40ILT	<b>optris PI 400i:</b> 382x288 px, 80 Hz, switchable to 27 Hz, with long pass filter for CO <sub>2</sub> laser applications	<b>4,930</b>
...45ILT	<b>optris PI 450i:</b> 382x288 px, 80 Hz, switchable to 27 Hz, with long pass filter for CO <sub>2</sub> laser applications	<b>5,830</b>
...64ILT	<b>optris PI 640i:</b> 640x480 px @ 32 Hz/ 640x120 px @ 125 Hz, with long pass filter for CO <sub>2</sub> laser applications	<b>7,780</b>
	<b>Selectable lenses for PI 400i/ 450i/ 450i G7/ DBR</b>	
...O18	18° x 14° lens/ f=20 mm	<b>0</b>
...O29	29° x 22° lens/ f=12,7 mm	<b>0</b>
...O53	53° x 38° lens/ f=7,7 mm	<b>0</b>
...O80	80° x 54° lens/ f=5,7 mm	<b>0</b>
	<b>Selectable lenses for PI 640i/ 640i G7/ DBR</b>	
...O15	15° x 11° lens/ f=41,5 mm	<b>0</b>
...O33	33° x 25° lens/ f=18,7 mm	<b>0</b>
...O60	60° x 45° lens/ f=10,5 mm	<b>0</b>
...O90	90° x 64° lens/ f=7,7 mm	<b>0</b>
...O120	120° x 100° lens/ f=3,5 mm	<b>1,650</b>
	<b>Microscope lens for PI 640i/ DBR</b>	
...MO44	f=44 mm/ 12° x 9° lens/ Min. spot (IFOV): <b>28 µm</b>	<b>450</b>
...MO2X	f=60 mm/ 2x microscope lens/ Min. spot (IFOV): <b>8 µm</b> (only for PI640i)	<b>5,650</b>

Part-Number	Description	Price in €
	<b>Selectable lenses for PI 1M</b>	
...O9	9° x 6° (764x480)/ 4° x 3° (382x288)/ f=75 mm	0
...O13	13° x 8° (764x480)/ 7° x 5° (382x288)/ f=50 mm	0
...O27	27° x 17° (764x480)/ 14° x 11° (382x288)/ f=25 mm	0
...O41	41° x 25° (764x480)/ 20° x 15° (382x288)/ f=16 mm	0
	<b>Selectable lenses for PI 08M</b>	
...O27	27° x 17° (764x480)/ 14° x 11° (382x288)/ f=25 mm	0
...O41	41° x 25° (764x480)/ 20° x 15° (382x288)/ f=16 mm	0
	<b>Selectable lenses for PI 05M</b>	
...O13	13° x 8° (764x480)/ 7° x 5° (382x288)/ f=50 mm	0
...O27	27° x 17° (764x480)/ 14° x 11° (382x288)/ f=25 mm	0
...O41	41° x 25° (764x480)/ 20° x 15° (382x288)/ f=16 mm	0
	<b>Filter option for PI 1M</b>	
...N64	Notch filter with 1064 nm CWL incl. protective window (not for O9 and O41 lenses)	1,580
	<b>Temperature ranges for PI 640i/ DBR</b>	
...T090	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	0
...T150	200-1500 °C/ incl. the basic ranges according T090	900
	<b>Temperature ranges for PI 640i with MO2X lens</b>	
...T050	-20-100 °C/ 0-250 °C/ (20)150-500 °C (switchable)	0
	<b>Temperature ranges for PI 400i/ 450i/ DBR</b>	
...T090	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	0
...T010	-20-100 °C (only for PI450i)	0
...T150	200-1500 °C/ incl. the basic ranges according T090	900
	<b>Temperature ranges for PI 450i G7</b>	
...T150	200-1500 °C/ 150-900 °C (Meas. ranges)/ 0-250 °C (Sighting range)	0
	<b>Temperature ranges for PI 640i G7</b>	
...T150	200-1500 °C/ 150-900 °C (Meas. ranges)/ 0-250 °C (Sighting range)	0
...T300	200-3000 °C/ 150-900 °C (Meas. ranges)/ 0-250 °C (Sighting range)	2,100
	<b>Temperature ranges for PI 1M</b>	
...T180	450-1800 °C (27 Hz)/ 500-1800 °C (80 Hz/ 32 Hz)/ 600-1800 °C (1 kHz) <b>for O13 and O9 lenses:</b> 525-1800 °C (27 Hz)/ 575-1800 °C (80 Hz/ 32 Hz)/ 675-1800 °C (1 kHz)	0
	<b>Temperature ranges for PI 08M</b>	
...T190	575-1900°C (27 Hz)/ 625-1900°C (80 Hz/ 32 Hz)/ 750-1900°C (1 kHz)	0
	<b>Temperature ranges for PI 05M</b>	
...T245	900-2450°C (27 Hz)/ 950-2450°C (80 Hz/ 32 Hz)/ 1100-2450°C (1 kHz) <b>for O13 lens:</b> 950-2450°C (27 Hz)/ 1000-2450°C (80 Hz/ 32 Hz)/ 1150-2450°C (1 kHz)	0

Part-Number	Description	Price in €
<b>PI Microscope Accessory and Upgrade Kits</b>		
OPTPI64ILT	<b>...MO44AK Microscope Accessory Kit for optris PI 640i:</b> <i>for users having already a PI 640i with any other lens</i> Microscope lens with 12° x 9° FOV, PI microscope stand with ESD pad, Microscope case with additional compartments for PI camera, one additional lens (standard, wide angle or MO2X), for cables and operators manual	1,800
OPTPI64ILT	<b>...MO2XAK Microscope Accessory Kit for optris PI 640i:</b> <i>for users having already a PI 640i with any other lens</i> Microscope lens with 2x magnification, 10° x 8° FOV, PI microscope stand with ESD pad, Microscope case with additional compartments for PI camera, one additional lens (standard, wide angle or MO2X), for cables and operators manual, Premium microscope stand with coarse and fine drive	7,250
OPTPI64ILT	<b>...MO2XUP Microscope Upgrade Kit for optris PI 640i:</b> <i>for users having already a PI 640i with MO44 lens</i> Microscope lens with 2x magnification, 10° x 8° FOV, Premium microscope stand with coarse and fine drive	7,000

*The camera must be sent back for calibration with the respective microscope lens.*

#### Exchangeable Optics and Filters

*The camera must be sent back for calibration if an exchangeable optics is ordered subsequently.*

	<b>for PI 400i/ 450i (calibrated for -20-100 °C/ 0-250 °C/ (20)150-900 °C)</b> <b>and for PI 450i G7 (calibrated for 150-900 °C/ 200-1500 °C)</b>	
ACPI4XXIO18	18° x 14° lens/ f=20 mm	1,350
ACPI4XXIO29	29° x 22° lens/ f=12,7 mm	1,350
ACPI4XXIO53	53° x 38° lens/ f=7,7 mm	1,350
ACPI4XXIO80	80° x 54° lens/ f=5,7 mm	1,350
	<b>for PI 640i (calibrated for -20-100 °C/ 0-250 °C/ (20)150-900 °C)</b> <b>and for PI 640i G7 (calibrated for 150-900 °C/ 200-1500 °C)</b>	
ACPI640IO15	15° x 11° lens/ f=41,5 mm	1,350
ACPI640IO33	33° x 25° lens/ f=18,7 mm	1,350
ACPI640IO60	60° x 45° lens/ f=10,5 mm	1,350
ACPI640IO90	90° x 64° lens/ f=7,7 mm	1,350
ACPI640IO120	120° x 100° lens/ f=3,5 mm	3,000
	<b>for PI 1M (calibrated according T180 range)</b>	
ACPI1MO9	9° x 6° (764x480)/ 4° x 3° (382x288)/ f=75 mm	1,490
ACPI1MO13	13° x 8° (764x480)/ 7° x 5° (382x288)/ f=50 mm	1,490
ACPI1MO27	27° x 17° (764x480)/ 14° x 11° (382x288)/ f=25 mm	1,490
ACPI1MO41	41° x 25° (764x480)/ 20° x 15° (382x288)/ f=16 mm	1,490
ACPI1MN64	Notch filter with 1064 nm CWL incl. protective window <i>Part number only for subsequent order; camera must be sent back for calibration. Not for O9 and O41 lenses.</i>	2,050
	<b>for PI 08M (calibrated according T190 range)</b>	
ACPI08MO27	27° x 17° (764x480)/ 14° x 11° (382x288)/ f=25 mm	1,790
ACPI08MO41	41° x 25° (764x480)/ 20° x 15° (382x288)/ f=16 mm	1,790
	<b>for PI 05M (calibrated according T245 range)</b>	
ACPI05MO13	13° x 8° (764x480)/ 7° x 5° (382x288)/ f=50 mm	1,740
ACPI05MO27	27° x 17° (764x480)/ 14° x 11° (382x288)/ f=25 mm	1,740
ACPI05MO41	41° x 25° (764x480)/ 20° x 15° (382x288)/ f=16 mm	1,740

Part-Number	Description	Price in €
<b>Xi/ PI IR App Connector (compatible with IRmobile Android app)</b>		
ACXI80IACM	IR App Connector for Xi ETH series with Micro-USB plug, 45 cm cable	40
ACXI80IACC	IR App Connector for Xi ETH series with USB-C plug, 45 cm cable	40
ACPIIACM	IR App Connector for PI/ Xi 400/ 640 with Micro-USB plug, 45 cm cable	40
ACPIIACC	IR App Connector for PI/ Xi 400/ 640 with USB-C plug, 45 cm cable	40
<b>Xi 80/ 410/ 320 MT/ xM USB cables (8-pin cable plug - USB-A-connector)</b>		
ACXIUSBCB1	USB cable Xi ETH series, 1 m	60
ACXIUSBCB3	USB cable Xi ETH series, 3 m	75
ACXIUSBCB5	USB cable Xi ETH series, 5 m	90
ACXIUSBCB5H2	High temperature USB cable (250 °C) Xi ETH series, 5 m	210
<b>Xi 80/ 410/ 320 MT/ xM Ethernet cables (8-pin cable plug - RJ45 connector)</b>		
ACXIETCB1	Ethernet cable Xi ETH series, 1 m	60
ACXIETCB5	Ethernet cable Xi ETH series, 5 m	70
ACXIETCB5H	High temperature Ethernet cable (180 °C) Xi ETH series, 5 m	185
ACXIETCB5H2	High temperature Ethernet cable (250 °C) Xi ETH series, 5 m	410
ACXIETCB10	Ethernet cable Xi ETH series, 10 m	80
ACXIETCB10H	High temperature Ethernet cable (180 °C) Xi ETH series, 10 m	305
ACXIETCB10H2	High temperature Ethernet cable (250 °C) Xi ETH series, 10 m	755
ACXIETCB20	Ethernet cable Xi ETH series, 20 m	100
ACXIETCB20H	High temperature Ethernet cable (180 °C) Xi ETH series, 20 m	850
ACXIETPOECB1	Ethernet cable Xi ETH series with PoE adapter, 1 m	70
ACXIETPOECB5	Ethernet cable Xi ETH series with PoE adapter, 5 m	185
ACXIETPOECB5H	HT Ethernet cable (180 °C) Xi ETH series with PoE adapter, 5 m	280
ACXIETPOECB5H2	HT Ethernet cable (250 °C) Xi ETH series with PoE adapter, 5 m	510
ACXIETPOECB10	Ethernet cable Xi ETH series with PoE adapter, 10 m	215
ACXIETPOECB10H	HT Ethernet cable (180 °C) Xi ETH series with PoE adapter, 10 m	400
ACXIETPOECB10H2	HT Ethernet cable (250 °C) Xi ETH series with PoE adapter, 10 m	850
<b>Xi 80/ 410/ xM I/O/ RS485/ Interface box cables (5-pin cable plug - terminal block)</b>		
ACXIIOCB5	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM, 5 m	60
ACXIIOCB5H	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM (180 °C), 5 m	120
ACXIIOCB5H2	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM (250 °C), 5 m	190
ACXIIOCB10	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM, 10 m	80
ACXIIOCB10H	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM (180 °C), 10 m	205
ACXIIOCB10H2	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM (250 °C), 10 m	295
ACXIIOCB20	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM, 20 m	110
ACXIIOCB20H	I/O/ RS485/ Interface box cable for Xi 80/ 410/ xM (180 °C), 20 m	450
<b>Options</b>		
<b>for Xi 80/410/xM cables/ HT cables are excluded</b>		
...RC	Right angle connector (not combinable with CG options)	90
<b>for Xi 80/410/xM USB cables and Ethernet cables</b>		
...CG3	Pre-installed cable gland M20x1,5 for usage with Outdoor protective housing (max. Ø: 1x8 mm or 2x6 mm)	10
<b>for Xi 80/410/xM USB cables, Ethernet cables and I/O cables</b>		
...CG4	Pre-installed cable gland for usage with Xi water cooled housing	10

Part-Number	Description	Price in €
<b>Xi 400/ 640/ PI USB cables (4-pin cable socket - USB-A-connector)</b>		
<b>ACPIUSB5PCB1</b>	USB cable, 1 m	<b>45</b>
<b>ACPIUSB5PCB3</b>	USB cable, 3 m	<b>60</b>
<b>ACPIUSB5PCB5</b>	USB cable, 5 m	<b>80</b>
<b>ACPIUSB5PCB5H2</b>	High temperature USB cable (250 °C), 5 m	<b>210</b>
<b>ACPIUSB5PCB10</b>	USB cable, 10 m	<b>195</b>
<b>ACPIUSB5PCB10FO</b>	USB cable, 10 m, suitable for cable carriers and outdoor applications	<b>375</b>
<b>ACPIUSB5PCB10H2</b>	High temperature USB cable (250 °C), 10 m	<b>395</b>
<b>ACPIUSB5PCB20</b>	USB cable, 20 m	<b>375</b>
<b>ACPIUSB5PCB20FO</b>	USB cable, 20 m, suitable for cable carriers and outdoor applications	<b>740</b>
<b>Options</b>		
<b>for Xi 400/640 and PI USB cables</b>		
<b>...RC</b>	Right angle connector (not combinable with CG options)	<b>90</b>
<b>for PI USB cables</b>		
<b>...CG2</b>	Pre-installed cable gland M25x1,5 for usage with CoolingJacket Advanced (max. Ø: 1x8 mm or 1x5,8 mm)	<b>10</b>
<b>for Xi 400/640 and PI USB cables</b>		
<b>...CG3</b>	Pre-installed cable gland M20x1,5 for usage with Outdoor protective housing (max. Ø: 1x8 mm or 2x6 mm)	<b>10</b>
<b>for Xi 400/640 USB cables</b>		
<b>...CG4</b>	Pre-installed cable gland for usage with Xi water cooled housing	<b>10</b>

## Application Packages

### optris Top Down GIS 640 R

Glass inspection system for process control in glass tempering machines. Top Down measurement system with referencing from underneath. The system is completely pre-assembled and pre-wired and is ready to use.

Part-Number	Description	Price in €
<b>OPTTDGIS64I</b>	<b>Top-Down Glass inspection system 640 R</b> , consisting of the following components: <ul style="list-style-type: none"> <li>- PI640i Infrared camera, 640x480 px @ 32 Hz/ 640x120 px @ 125 Hz, 8-14 µm spectral range, Measurement ranges: -20-100 °C/ 0-250 °C/ (20)150-900 °C</li> <li>- 10 m USB cable</li> <li>- USB-Server Gigabit</li> <li>- 10 m Ethernet cable (Cat. 6)</li> <li>- Industr. Process interface with 10 m cable</li> <li>- CT G5L Reference pyrometer with USB interface, Measurement range: 100-1200 °C, 10 m head cable</li> <li>- Certificate of calibration for CT G5L (108 °C, 600 °C, 1000 °C)</li> <li>- Shutter systems (2) for IR camera and reference pyrometer incl. Mounting bracket and 10 m cable</li> <li>- Remote control (Low-E-switch/ manual shutter operation) with 10 m cable</li> <li>- Control cabinet</li> <li>- 100-230 V AC/ 24 V DC power supply</li> <li>- Software PIXConnect, System documentation</li> </ul>	<b>10,150</b>
	<b>Selectable lenses for PI640i</b>	
...O90R	90° x 64° lens/ f=7,7 mm	<b>0</b>
...O60R	60° x 45° lens/ f=10,5 mm	<b>0</b>
...O33R	33° x 25° lens/ f=18,7 mm	<b>0</b>

Glass inspection system for process control in glass tempering machines. Bottom Up measurement system with additional glass breakage sensor. The system is completely pre-assembled and pre-wired and is ready to use.

Part-Number	Description	Price in €
<b>OPTBUGIS</b>	<b>...64IG7</b>	<b>20,850</b>
	<p><b>Bottom Up Glass inspection system 640i G7</b>, consisting of the following components:</p> <ul style="list-style-type: none"> <li>- 2x PI640i G7 infrared cameras, 640x480 px @ 32 Hz/ 640x120 px @ 125 Hz, 7,9 µm spectral range, Measurement ranges: 150-900 °C/ 200-1500 °C, Sighting range: 0-250 °C</li> <li>- 10 m USB cable</li> <li>- 2x USB-Server Gigabit 2.0</li> <li>- 2x Industrial process interface with 10 m cable</li> <li>- 2x Shutter systems for IR cameras incl. mounting brackets and 10 m cable</li> <li>- CTlaser 4ML with FF optics (glass breakage detection)</li> <li>- Netgear GS305E 5-Port LAN Gigabit Ethernet switch</li> <li>- 24 V to 12 V converter (for Netgear switch)</li> <li>- 10 m Ethernet cable (Cat. 6)</li> <li>- Remote control (manual shutter operation) with 10 m cable</li> <li>- Control cabinet</li> <li>- 100-230 V AC/ 24 V DC power supply</li> <li>- Software PIXConnect, System documentation</li> </ul>	
	<b>Selectable lenses for PI640i G7</b>	
	<b>...O90</b> 90° x 64° lens/ f=7,7 mm	<b>0</b>
	<b>...O60</b> 60° x 45° lens/ f=10,5 mm	<b>0</b>
<b>OPTBUGIS</b>	<b>...45IG7</b>	<b>14,750</b>
	<p><b>Bottom Up Glass inspection system 450i G7</b>, consisting of the following components:</p> <ul style="list-style-type: none"> <li>- 2x PI450i G7 infrared cameras, 382x288 px @ 80 Hz/ switchable to 27 Hz, 7,9 µm spectral range, Measurement ranges: 150-900 °C/ 200-1500 °C, Sighting range: 0-250 °C</li> <li>- 10 m USB cable</li> <li>- 2x USB-Server Gigabit 2.0</li> <li>- 2x Industrial process interface with 10 m cable</li> <li>- 2x Shutter systems for IR cameras incl. mounting brackets and 10 m cable</li> <li>- CTlaser 4ML with FF optics (glass breakage detection)</li> <li>- Netgear GS305E 5-Port LAN Gigabit Ethernet switch</li> <li>- 24 V to 12 V converter (for Netgear switch)</li> <li>- 10 m Ethernet cable (Cat. 6)</li> <li>- Remote control (manual shutter operation) with 10 m cable</li> <li>- Control cabinet</li> <li>- 100-230 V AC/ 24 V DC power supply</li> <li>- Software PIXConnect, System documentation</li> </ul>	
	<b>Selectable lenses for PI450i G7</b>	
	<b>...O80</b> 80° x 54° lens/ f=5,7 mm	<b>0</b>
	<b>...O53</b> 53° x 38° lens/ f=7,7 mm	<b>0</b>

Part-Number	Description	Price in €
<b>Xi 400 CM</b>		
<b>OPTXI40LT</b>	<b>...CM</b> <b>optris Xi 400 CM:</b> Xi 400 + HD video camera with Outdoor Protective Housing for condition monitoring and early fire detection, IP66 rated Operating temperature range: -40 - 50 °C <b>IR:</b> 382x288 px, 80/ 27 Hz, 50 mK NETD / <b>VIS:</b> 1280x720 px, 30 Hz incl. USB Server Gigabit and Wall mount <i>Xi, video camera and USB Server are pre-assembled.</i>	<b>3,200</b>
	<b>Selectable lenses for Xi 400 CM</b>	
<b>...F20</b>	f=20 mm/ 18° x 14° lens	<b>0</b>
<b>...F13</b>	f=12,7 mm/ 29° x 22° lens	<b>0</b>
<b>...F08</b>	f=7,7 mm/ 53° x 38° lens	<b>0</b>
<b>...F06</b>	f=5,7 mm/ 80° x 54° lens	<b>0</b>
	<b>Temperature range for Xi 400 CM</b>	
<b>...T090</b>	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	<b>0</b>
<b>...T150</b>	200-1500 °C/ incl. the basic ranges according T090	<b>900</b>
	<b>Process Interface (pre-assembled in Outdoor Protective Housing)</b>	
<b>...P</b>	Industrial Process interface for Xi 400 with 500 VAC <sub>RMS</sub> isolation voltage between imager and process; 25 cm connection cable to imager	<b>195</b>
<b>PI 450i CM</b>		
<b>OPTPI45ILT</b>	<b>...CM</b> <b>optris PI 450i CM:</b> PI 450i + HD video camera with Outdoor protective housing for condition monitoring and early fire detection, IP66 rated Operating temperature range: -40 - 60 °C <b>IR:</b> 382x288 px, 27 Hz, 40 mK NETD / <b>VIS:</b> 1280x720 px, 30 Hz incl. USB Server HT, Wall mount and Protective window (Germanium) <i>Video camera and USB Server are pre-assembled.</i>	<b>6,450</b>
	<b>Selectable lenses for PI 450i CM</b>	
<b>...O18</b>	18° x 14° lens/ f=20 mm	<b>0</b>
<b>...O29</b>	29° x 22° lens/ f=12,7 mm	<b>0</b>
<b>...O53</b>	53° x 38° lens/ f=7,7 mm	<b>0</b>
<b>...O80</b>	80° x 54° lens/ f=5,7 mm	<b>0</b>
	<b>Temperature range for PI 450i CM</b>	
<b>...T090</b>	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	<b>0</b>
<b>...T150</b>	200-1500 °C/ incl. the basic ranges according T090	<b>900</b>
	<b>Process Interface (pre-assembled in Outdoor Protective Housing)</b>	
<b>...P</b>	Industrial Process interface for PI 450i with 500 VAC <sub>RMS</sub> isolation voltage between imager and process; 25 cm connection cable to imager	<b>195</b>

Part-Number	Description	Price in €
<b>PI 640i CM</b>		
<b>OPTPI64ILT</b>	<b>...CM</b> <b>optris PI 640i CM:</b> PI 640i + HD video camera with Outdoor protective housing for condition monitoring and early fire detection, IP66 rated Operating temperature range: -40 - 50 °C <b>IR:</b> 640x480 px, 32 Hz, 40 mK NETD / <b>VIS:</b> 1280x720 px, 30 Hz incl. USB Server, Wall mount and Protective window (Germanium) <i>Video camera and USB Server are pre-assembled.</i>	<b>8,550</b>
	<b>Selectable lenses for PI 640i CM</b>	
<b>...O15</b>	15° x 11° lens/ f=41,5 mm	<b>0</b>
<b>...O33</b>	33° x 25° lens/ f=18,7 mm	<b>0</b>
<b>...O60</b>	60° x 45° lens/ f=10,5 mm	<b>0</b>
<b>...O90</b>	90° x 64° lens/ f=7,7 mm	<b>0</b>
	<b>Temperature range for PI 640i CM</b>	
<b>...T090</b>	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	<b>0</b>
<b>...T150</b>	200-1500 °C/ incl. the basic ranges according T090	<b>900</b>
	<b>Process Interface (pre-assembled in Outdoor Protective Housing)</b>	
<b>...P</b>	Industrial Process interface for PI 450i with 500 VAC <sub>RMS</sub> isolation voltage between imager and process; 25 cm connection cable to imager	<b>195</b>

Part-Number	Description	Price in €
<b>Xi 410 IP</b>		
OPTXI41	<b>...IP</b> <b>optris Xi 410 IP:</b> Xi 410 Industrial Package Xi 410 LT with Water cooled housing, Air purge laminar and Shutter completely pre-assembled with HT Ethernet <u>or</u> PoE cable and with HT I/O cable <u>or</u> Industrial PIF 384x240 px, 25 Hz	<b>4,505</b>
	<b>Selectable lenses for Xi 410 IP</b>	
...F20	f=20 mm/ 18° x 12° lens	<b>0</b>
...F13	f=12,7 mm/ 29° x 18° lens	<b>0</b>
...F08	f=7,7 mm/ 53° x 31° lens	<b>0</b>
...F06	f=5,7 mm/ 80° x 44° lens	<b>0</b>
	<b>Temperature range for Xi 410 IP</b>	
...T9	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	<b>0</b>
...T1	200-1500 °C/ incl. -20-100 °C/ 0-250 °C	<b>900</b>
	<b>Ethernet cable</b>	
...E	High temperature Ethernet cable (250 °C)	<b>0</b>
...P	High temperature Ethernet cable (250 °C) with PoE adapter	<b>95</b>
	<b>Process interface</b>	
...I	High temperature I/O/ RS485/ Interface box cable (250 °C)	<b>0</b>
...S	Ind. PIF (stackable up to 3) with high temperature cable (250 °C)	<b>210</b>
	<b>Cable lengths</b>	
...C5	All cables in 5 m length	<b>0</b>
...C1	All cables in 10 m length	<b>580</b>
<b>Xi 1M IP</b>		
OPTXI1M	<b>...IP</b> <b>optris Xi 1M IP: Xi 1M Industrial Package</b> Xi 1M with Water cooled housing, Air purge laminar and Shutter completely pre-assembled with HT Ethernet <u>or</u> PoE cable and with HT I/O cable <u>or</u> Industrial PIF 396x300 px, 20 Hz, 396x8 px (396x1 px), 500 Hz	<b>4,535</b>
	<b>Selectable lenses for Xi 1M IP</b>	
...O7SF	7° x 5° lens/ f=50 mm (800 mm to infinity)	<b>0</b>
...O7CF	7° x 5° lens/ f=50 mm (400 mm to 800 mm)	<b>0</b>
...O14	14° x 10° lens/ f=25 mm	<b>0</b>
...O28	28° x 21° lens/ f=12 mm	<b>0</b>
	<b>Temperature range for Xi 1M IP</b>	
...T1	450-1800 °C (20 Hz)/ 550-1800 °C (500 Hz) <b>for O7SF and O7CF lenses:</b> 525-1800 °C (20 Hz)/ 575-1800 °C (500 Hz)	<b>0</b>
	<b>Ethernet cable</b>	
...E	High temperature Ethernet cable (250 °C)	<b>0</b>
...P	High temperature Ethernet cable (250 °C) with PoE adapter	<b>95</b>
	<b>Process interface</b>	
...I	High temperature I/O/ RS485/ Interface box cable (250 °C)	<b>0</b>
...S	Ind. PIF (stackable up to 3) with high temperature cable (250 °C)	<b>210</b>
	<b>Cable lengths</b>	
...C5	All cables in 5 m length	<b>0</b>
...C1	All cables in 10 m length	<b>580</b>

Part-Number	Description	Price in €
<b>Xi 640 IP</b>		
<b>OPTXI64</b>	<b>...IP</b> <b>optris Xi 640 IP:</b> Xi 640 Industrial Package Xi 640 LT with Water cooled housing, Air purge laminar and Shutter completely pre-assembled with HT USB cable (250 °C) and with Industrial PIF with HT cable (250 °C) 640x480 px, 32 Hz	<b>7,835</b>
	<b>Selectable lenses for Xi 640 IP</b>	
<b>...O22</b>	22° x 17° lens/ f=20 mm	<b>0</b>
<b>...O36</b>	36° x 26° lens/ f=12,7 mm	<b>0</b>
<b>...O65</b>	65° x 45° lens/ f=7,7 mm	<b>0</b>
	<b>Temperature range for Xi 640 IP</b>	
<b>...T9</b>	-20-100 °C/ 0-250 °C/ (20)150-900 °C (switchable)	<b>0</b>
	<b>Cable lengths</b>	
<b>...C5</b>	All cables in 5 m length	<b>0</b>
<b>...C1</b>	All cables in 10 m length	<b>430</b>

Part-Number	Description	Price in €
<b>Xi 1M FP</b>		
<b>OPTXI1M</b>	<b>...FP</b> <b>optris Xi 1M FP:</b> Xi 1M Furnace Package Xi 1M with Water cooled housing and Air purge flange laminar completely pre-assembled with HT Ethernet <u>or</u> PoE cable and with HT I/O cable <u>or</u> Industrial PIF 396x300 px, 20 Hz, 396x8 px (396x1 px), 500 Hz	<b>4,240</b>
	<b>Selectable lenses for Xi 1M FP</b>	
<b>...O7SF</b>	7° x 5° lens/ f=50 mm (800 mm to infinity)	<b>0</b>
<b>...O7CF</b>	7° x 5° lens/ f=50 mm (400 mm to 800 mm)	<b>0</b>
<b>...O14</b>	14° x 10° lens/ f=25 mm	<b>0</b>
<b>...O28</b>	28° x 21° lens/ f=12 mm	<b>0</b>
	<b>Temperature range for Xi 1M FP</b>	
<b>...T1</b>	450-1800 °C (20 Hz)/ 550-1800 °C (500 Hz) <b>for O7SF and O7CF lenses:</b> 525-1800 °C (20 Hz)/ 575-1800 °C (500 Hz)	<b>0</b>
	<b>Ethernet cable</b>	
<b>...E</b>	High temperature Ethernet cable (250 °C)	<b>0</b>
<b>...P</b>	High temperature Ethernet cable (250 °C) with PoE adapter	<b>95</b>
	<b>Process interface</b>	
<b>...I</b>	High temperature I/O/ RS485/ Interface box cable (250 °C)	<b>0</b>
<b>...S</b>	Ind. PIF (stackable up to 3) with high temperature cable (250 °C)	<b>210</b>
	<b>Cable lengths</b>	
<b>...C5</b>	All cables in 5 m length	<b>0</b>
<b>...C1</b>	All cables in 10 m length	<b>440</b>

## Accessories

### Accessories Infrared Thermometers

Part-Number	Description	Price in €
<b>Optical Accessories</b>		
ACCTCF	CF-lens (for LT)	40
ACCTCFE	CF-lens with external thread M12x1 (for LT)	40
ACCTCFP3	CF-lens (for P3)	50
ACCTCFP3E	CF-lens with external thread M12x1 (for P3)	50
ACCTCFHT	CF-lens (for 1M/ 2M/ 3M)	80
ACCTCFHTE	CF-lens with external thread M12x1 (for 1M/ 2M/ 3M)	80
ACCTPW	Protective window (for LT)	30
ACCTPWE	Protective window with external thread M12x1 (for LT)	30
ACCTPWHT	Protective window (for 1M/ 2M/ 3M)	45
ACCTPWHTE	Protective window with external thread M12x1 (for 1M/ 2M/ 3M)	45
ACCTPWSI35M	Protective window (for 4M)	45
ACCTPWSI35ME	Protective window with external thread M12x1 (for 4M)	45
D08ACCTLST	Laser-Sightingtool for CT/ CTi heads incl. batteries (2x Alkaline AA)	89
ACCTOEMLST	OEM Laser-Sightingtool, 635 nm, rotation symmetrical, 3,5 m cable for connection to CT/ CTi electronics	42
ACCTOEMLSTCB8	OEM Laser-Sightingtool, 635 nm, rotation symmetrical, 8 m cable for connection to CT/ CTi electronics	65
<b>Mechanical Accessories</b>		
ACCTFB	Mounting bracket, adjustable in one axis	20
ACCTFBT	Mounting bracket, adjustable in one axis, with hole for tripod mounting	20
ACCSMLTHFB	Mounting bracket, isolated, adjustable in one axis	25
ACCTFB2	Mounting bracket, adjustable in one axis, for simultaneous mounting of CT/ CTi sensing head and Laser-Sightingtool	25
ACCTFB2T	Mounting bracket, adjustable in one axis, for simultaneous mounting of CT/ CTi sensing head and Laser-Sightingtool, with tripod thread	25
ACCTAB	Mounting bracket, adjustable in two axes	40
ACCTFBMH	Mounting bracket for Massive housing (D06)/ CSmicro hs/ CThot/ CTi LThot/ CT(i) P3/ CT(i) P7, adjustable in one axis	20
ACCTFBMHT	Mounting bracket for Massive housing (D06)/ CSmicro hs/ CThot/ CTi LThot/ CT(i) P3/ CT(i) P7, adjustable in one axis, with tripod thread	20
ACCTMB	Mounting bolt with thread M 12x1	20
ACCTMG	Mounting fork, adjustable in 2 axes, with thread M 12x1	45
ACCTTAS	Tilt assembly (for heads with optical resolution $\geq 10:1$ )	45
ACCSAP	Air purge collar (for heads with optical resolution $\geq 10:1$ )	25
ACCTAP	Air purge collar for CT/ CTi heads with optical resolution $\geq 10:1$ (not for heads with 32 mm length)	50
ACCTAP2	Air purge collar for 2:1 heads (CT/ CTi) (not for heads with 32 mm length)	50
ACCTAPL	Air purge collar, laminar	95
ACCTAPLMF	Air purge collar, laminar, with mounting fork, adjustable in 2 axes	125
ACCTAPLCF	Air purge collar, laminar, with integrated CF-lens (for LT)	135
ACCTAPLCFHT	Air purge collar, laminar, with integrated CF-lens (for 1M/ 2M/ 3M)	175
ACCTAPMH	Air purge collar for Massive housing (D06)/ CSmicro hs/ CThot/ CTi LThot/ CT(i) P3/ CT(i) P7/ CTratio, stainless steel	70
ACCTAPMHPW1M	Air purge collar for CTratio (1M/ 2M) incl. protective window	90
ACCTRAM	Right angle mirror for measurements $90^\circ$ to the sensor axis for sensing heads with optical resolution $\geq 10:1$	53
ACCTKF40GE	KF40 flange for CT(i)LT/ CSmicro LT/ CS with Ge window (up to $10^{-7}$ mba)	455
ACCTKF40SI	KF40 flange for CT(i) 4M with Si window (up to $10^{-7}$ mbar)	425
ACCTKF40B270	KF40 flange for CT/ CTi/ CSmicro xM with B270 window (up to $10^{-7}$ mbar)	160

## Accessories Infrared Thermometers



Part-Number	Description	Price in €
ACCTPA	Pipe adapter with M12x1 internal thread	25
ACCTST20	Sighting tube with M12x1 external thread, 20 mm length	20
ACCTST40	Sighting tube with M12x1 external thread, 40 mm length	24
ACCTST88	Sighting tube with M12x1 external thread, 88 mm length	30
D06ACCTMHS	Massive housing, compact, stainless steel (CT/ CTi/ CSmicro)	145
D06ACCTMHA	Massive housing, compact, anodized aluminium (CT/ CTi/ CSmicro)	105
D06ACCTMHB	Massive housing, compact, brass (CT/ CTi/ CSmicro)	95
	...CF integrated CF-lens for massive housing, compact (for LT)	add 40
	...CFHT integrated CF-lens for massive housing, compact (for 1M/ 2M/ 3M)	add 80
ACCTTAM25	Thread adapter M12x1 to M25x1,5 incl. 2 mounting nuts	40
ACCTLFBT	Mounting bracket CxL/ CxV/ CSvision, adjustable in one axis, stainl. steel, with tripod thread	40
ACCTLABT	Mounting bracket CxL/ CxV/ CSvision, adjustable in two axes, stainl. steel with tripod thread	80
ACCTLAP	Air purge collar CxL/ CxV/ CSvision, stainless steel	90
ACCTAPMH	Air purge collar CTratio, stainless steel	70
ACCTRFKF40B270	KF40 flange for CTratio with B270 window (up to 10 <sup>-1</sup> mbar)	160
ACCTLW	Water cooled housing CxL/ CxV, stainless steel, for T <sub>amb</sub> up to 175 °C	210
ACCSVIWA	Water cooled housing CSvision, stainless steel, for T <sub>amb</sub> up to 250 °C (if used together with air purge collar ACCTLAP)	300
ACCTTA20UN	Thread adapter M48x1,5 to 20 UN-2A thread incl. mounting nut	90
ACCTRAIL	Rail mount adapter for CT/ CTi/ CTL/ CTV/ CTratio electronics	20
ACCTCOV	Closed cover for CT/ CTL/ CTV/ CTratio electronic box	20
ACCTICOV	Closed cover for CTi electronic box	20
ACLSED	Emissivity labels for measurement of reflective surfaces ε=0,95/ diameter: 25mm/ -40...300°C/ sheet with 70 pcs. (only suitable for 8-14 µm spectral response)	110

## Accessories for high ambient temperatures (Cxlaser/ Cxvideo/ CSvision/ CTratio)

ACHAMF	Mounting flange, fitting to pipe flange and CoolingJacket	98
ACHAPF	Pipe flange M48, fitting to sighting tubes with M48x1,5 thread	80
ACHAPA	Pipe adapter with M48x1,5 internal thread	35
ACHAST300	Sighting tube M48x1,5, 300 mm length	70
ACCTRATA	Thread adapter for CTratio, M48x1,5 (external) - M18x1 (internal)	30
ACHAMA	Mounting adapter: Mounting and pipe flange incl. screws	180
ACCTLRM	Furnace wall mount accessory for CSlaser/ CTlaser: Mounting adapter, Sighting tube (300 mm), Pipe adapter M48x1,5	285
ACCTRRM	Furnace wall mount accessory for CTratio: Mounting adapter, Sighting tube (300 mm), Pipe adapter M48x1,5, Thread adapter M48x1,5 to M18x1	315

CTL = CTlaser / CxL = CSlaser, CTlaser / CTV = CTvideo / CxV = CSvideo, CTvideo

Part-Number	Description	Price in €
<b>Calibration certificates - Traceable to PTB transfer standards</b>		
<b>ACCSCERT</b>	Certificate of calibration for CS/ CSmicro LT (3 reference temperatures)	<b>75</b>
<b>ACCSMHSCERT</b>	Certificate of calibration for CSmicro hs LT (at $T_{amb}$ , 70 °C, 110 °C)	<b>95</b>
<b>ACCSMHTCERT</b>	Certificate of calibration for CSmicro 2M/ 3M (3 reference temperatures)	<b>90</b>
<b>ACCTCERT</b>	Certificate of calibration for CT LT (at $T_{amb}$ , 110 °C, 510 °C)	<b>75</b>
<b>ACCTHTCERT</b>	Certificate of calibration for CT xM/ G5/ P3/ P7 (3 reference temperatures)	<b>90</b>
<b>ACCSLCERT</b>	Certificate of calibration for CSlaser LT (at $T_{amb}$ , 166 °C, 500 °C)	<b>95</b>
<b>ACCSLHSCERT</b>	Certificate of calibration for CSlaser hs LT (at $T_{amb}$ , 70 °C, 110 °C)	<b>95</b>
<b>ACCSLHTCERT</b>	Cert. of calibration for CSlaser 2M (3 reference temperatures)	<b>110</b>
<b>ACCTLCERT</b>	Certificate of calibration for CTlaser LT (at $T_{amb}$ , 166 °C, 500 °C)	<b>95</b>
<b>ACCTLHTCERT</b>	Cert. of calibration for CTlaser xM/ MT/ F2/ F6/ G5/ P7 (3 reference temperatures)	<b>110</b>
<b>ACCSVHTCERT</b>	Cert. of calibration for CSvideo 2M/ 3M (3 reference temperatures)	<b>110</b>
<b>ACCTVHTCERT</b>	Cert. of calibration for CTvideo 1M/ 2M/ 3M (3 reference temperatures)	<b>110</b>
<b>ACCTRFLCERT</b>	Certificate of calibration for CTratio xML (4 reference temperatures)	<b>160</b>
<b>ACTRFHCERT</b>	Cert. of calibration for CTratio xMH/ xMH1 (4 reference temperatures)	<b>220</b>
<b>ACCSVICERT</b>	Certificate of calibration for CSvision R2ML (4 reference temperatures)	<b>160</b>
<b>ACCSVIHTCERT</b>	Cert. of calibration for CSvision R1ML/ R1MH (4 reference temperatures)	<b>220</b>
<b>Calibration certificates - Traceable to NIST transfer standards</b>		
<b>ACCSNIST</b>	Certificate of calibration for CS/ CSmicro LT (3 reference temperatures)	<b>120</b>
<b>ACCSMHSNIST</b>	Certificate of calibration for CSmicro hs LT (at $T_{amb}$ , 70 °C, 110 °C)	<b>190</b>
<b>ACCSMHTNIST</b>	Certificate of calibration for CSmicro 2M/ 3M (3 reference temperatures)	<b>140</b>
<b>ACCTNIST</b>	Certificate of calibration for CT/ CTi LT (3 reference temperatures)	<b>120</b>
<b>ACCTHTNIST</b>	Certificate of calibration for CT(i) xM/ G5/ P3/ P7 (3 reference temp.)	<b>140</b>
<b>ACCSLNIST</b>	Certificate of calibration for CSlaser LT (at $T_{amb}$ , 166 °C, 500 °C)	<b>150</b>
<b>ACCSLHSNIST</b>	Certificate of calibration for CSlaser hs LT (at $T_{amb}$ , 70 °C, 110 °C)	<b>190</b>
<b>ACCSLHTNIST</b>	Cert. of calibration for CSlaser 2M (3 reference temperatures)	<b>170</b>
<b>ACCTLNIST</b>	Certificate of calibration for CTlaser LT (at $T_{amb}$ , 166 °C, 500 °C)	<b>150</b>
<b>ACCTLHTNIST</b>	Cert. of calibration for CTlaser xM/ MT/ F2/ F6/ G5/ P7 (3 reference temperatures)	<b>170</b>
<b>ACCSVHTNIST</b>	Cert. of calibration for CSvideo 2M/ 3M (3 reference temperatures)	<b>170</b>
<b>ACCTVHTNIST</b>	Cert. of calibration for CTvideo 1M/ 2M/ 3M (3 reference temperatures)	<b>170</b>
<b>ACCTRFLNIST</b>	Certificate of calibration for CTratio xML (4 reference temperatures)	<b>240</b>
<b>ACTRFHNIST</b>	Cert. of calibration for CTratio xMH/ xMH1 (4 reference temperatures)	<b>330</b>
<b>ACCSVINIST</b>	Certificate of calibration for CSvision R2ML (4 reference temperatures)	<b>240</b>
<b>ACCSVIHTNIST</b>	Cert. of calibration for CSvision R1ML/ R1MH (4 reference temperatures)	<b>330</b>

Part-Number	Description	Price in €
<b>ACCSMIACC</b>	<b>for CS/ CSmicro/ CSLaser</b> IR App Connector: USB adapter cable with USB-C plug and adapter for USB-A, compatible with IRmobile (Android) and CompactConnect (Windows)	<b>40</b>
<b>ACCTMIACC</b>	<b>for CTi/ CT 4M/ CTlaser 4M/ CTratio</b> IR App Connector for CTi/ CT 4M/ CTlaser 4M/ CTratio USB interface board and cable with USB-C plug and adapters for USB-A, compatible with IRmobile (Android) and CompactPlus Connect (Windows)	<b>65</b>
<b>ACCTIACC</b>	<b>for CT/ CTlaser (except 4M)</b> IR App Connector for CT: USB interface board and cable with USB-C plug and adapter for USB-A, compatible with IRmobile (Android) and CompactConnect (Windows)	<b>65</b>
<b>ACCTPFBDPK</b>	Profibus-DPv1 interface with M12-connection (M12 connector incl.)	<b>240</b>
<b>ACCTRS232K</b>	<b>for CTi/ CT/ CTlaser/ CTratio</b> RS232 interface kit incl. computer cable	<b>60</b>
<b>ACCTRS485USBKV2</b>	RS485/422-USB adapter incl. cable and terminal block, switchable termination resistor, USB extension cable (40 cm)	<b>95</b>
<b>ACCTRS485B</b>	RS485 interface board <sup>1)</sup>	<b>50</b>
<b>ACCTMBRTUB</b>	Modbus RTU interface board	<b>50</b>
<b>ACCTENMBTCPK</b>	Ethernet TCP/IP / Modbus TCP interface kit	<b>150</b>
<b>ACCTEIPK</b>	Interface board, M12 connector for electronic box, 25 cm cable EtherNet/IP interface kit	<b>200</b>
<b>ACCTPFNK</b>	Interface board, M12 connector for electronic box, 25 cm cable Profinet kit	<b>200</b>
<b>ACCTRI</b>	Interface board, M12 connector for electronic box, 25 cm cable Relay interface: Two optically isolated relays, 60 VDC/ 42 VAC <sub>RMS</sub> , 0,4 A	<b>45</b>
<b>ACXICSVIENMBTCPK</b>	<b>for Xi 80/ 410/ xM/ CSvision</b> Ethernet TCP/IP / Modbus TCP interface kit	<b>230</b>
<b>ACXICSVIEIPK</b>	Interface box (IP65) incl. M12 connector, 25 cm cable EtherNet/IP interface kit	<b>280</b>
<b>ACXICSVIPFNK</b>	Interface box (IP65) incl. M12 connector, 25 cm cable Profinet kit	<b>280</b>
	Interface box (IP65) incl. M12 connector, 25 cm cable	
	<i>The connection Xi - interface box must be done via the 1 m I/O/ RS485 cable (ACXIIOCB1 - incl.) / The connection CSvision - interface box must be done via the 3 m sensor cable (ACCSVICB3C - incl.)</i>	
	<b>Other cable lengths can be ordered separately.</b>	
<b>ACPIUSBSGB</b>	<b>for CSvideo/ CTvideo/ CSvision</b> <b>USB-Server Gigabit 2.0:</b> USB-Ethernet converter for CSvideo/ CTvideo incl. 24 VDC power supply	<b>450</b>

<sup>1)</sup> In a RS485 network one RS485 board for each single sensor and once the RS485/422-USB adapter is required.

Part-Number	Description	Price in €
<b>Xi Mechanical Accessories</b>		
<b>ACXIAPL</b>	Air purge for Xi, laminar, incl. protective window (Si)	<b>195</b>
<b>ACXIMTAPL</b>	Air purge for Xi 320 MT, laminar, incl. protective window (Si)	<b>195</b>
<b>ACXI1MAPL</b>	Air purge for Xi 1M, laminar, incl. protective window (Borofloat 33)	<b>225</b>
<b>ACXI05MAPL</b>	Air purge for Xi 05M, laminar, incl. protective window (Borofloat 33)	<b>225</b>
<b>ACXIS</b>	Shutter for Xi with servo drive for protection of the camera optics, 100 ms fast-closing mode (single usage or with Air purge, laminar), incl. control electronics	<b>570</b>
...CB5	5 m cable between Shutter and electronics	<b>40</b>
...CB10	10 m cable between Shutter and electronics	<b>80</b>
<b>ACXISW</b>	Shutter for Xi with servo drive for protection of the camera optics, 100 ms fast-closing mode (usage with Water cooling or with Water cooling + Air purge, laminar), incl. control electronics	<b>580</b>
...CB5H2	5 m high temperature cable (250 °C) between Shutter and electronics	<b>140</b>
...CB10H2	10 m high temperature cable (250 °C) between Shutter and electronics	<b>280</b>
<b>ACXIAB</b>	Mounting bracket for Xi, adjustable in two axes (for usage of Xi without additional accessories)	<b>80</b>
<b>ACXIAPLAB</b>	Mounting bracket for Xi, adjustable in two axes (usage with Air purge, Shutter or with Air purge + Shutter)	<b>85</b>
<b>ACXIMW</b>	Water cooled housing for Xi, for T <sub>amb</sub> up to 250 °C, incl. Mounting bracket, adjustable in two axis (requires a suitable Water cooling assembling kit) <i>If cooling function is used we recommend high temperature cables.</i>	<b>395</b>
	<b>Assembling kits for Xi Water cooling - fitting for Xi 80</b>	
<b>ACXI80MWAK1</b>	Usage without Air purge	<b>125</b>
<b>ACXI80MWAK2</b>	Usage with Air purge	<b>125</b>
<b>ACXI80MWAK3</b>	Usage with Air purge flange laminar (ACXIMWAPFL)	<b>125</b>
	<b>Assembling kits for Xi Water cooling - fitting for Xi 320 MT/ 4xx/ 640</b>	
<b>ACXI400MWAK1</b>	Usage without Air purge	<b>125</b>
<b>ACXI400MWAK2</b>	Usage with Air purge	<b>125</b>
<b>ACXI400MWAK3</b>	Usage with Air purge flange laminar (ACXIMWAPFL)	<b>125</b>
	<b>Assembling kits for Xi Water cooling - fitting for Xi xM (O50/ O28/ O14)</b>	
<b>ACXIM25WAK1</b>	Usage without Air purge	<b>125</b>
<b>ACXIM25WAK2</b>	Usage with Air purge	<b>125</b>
<b>ACXIM25WAK3</b>	Usage with Air purge flange laminar (ACXIMWAPFL)	<b>125</b>
	<b>Assembling kits for Xi Water cooling - fitting for Xi xM (O7SF and O7CF)</b>	
<b>ACXIM50WAK1</b>	Usage without Air purge	<b>125</b>
<b>ACXIM50WAK2</b>	Usage with Air purge	<b>125</b>
<b>ACXIM50WAK3</b>	Usage with Air purge flange laminar (ACXIMWAPFL)	<b>125</b>
<b>ACXIMWAPFL</b>	Air purge flange laminar, for Xi water cooled housing <i>A protective window (38 x 2 mm) has to be ordered separately.</i>	<b>570</b>
	<b>Protective windows 38 x 2 mm, for Air purge flange laminar</b>	
<b>ACXIPWGE714M38X2</b>	Protective window, Germanium, AR coated, for Air purge flange laminar, recommended for Xi LT	<b>290</b>
<b>ACXIPWZNS714M38X2</b>	Protective window, ZnS, AR coated, for Air purge flange laminar, recommended for Xi LT	<b>270</b>
<b>ACXIPWBF1M38X2</b>	Protective window, Borofloat, AR coated, for Air purge flange laminar, recommended for Xi 1M	<b>80</b>
<b>ACXIPWBF05M38X2</b>	Protective window, Borofloat, AR coated, for Air purge flange laminar, recommended for Xi 05M	<b>80</b>
<b>ACXIPWSA38X2</b>	Protective window, Sapphire, for Air purge flange laminar, recommended for Xi 320 MT	<b>80</b>



Part-Number	Description	Price in €
<b>PI Optical and Mechanical Accessories</b>		
<b>ACPI1MPWB270</b>	Protective window for PI 1M/ 08M, plug-on mounting	<b>90</b>
<b>ACPI05MPWB270</b>	Protective window for PI 05M, plug-on mounting	<b>90</b>
<b>ACPIPH</b>	Protective housing, stainless steel, incl. mounting base	<b>110</b>
<b>ACPIMB</b>	Mounting base, stainless steel, adjustable in 2 axes	<b>50</b>
<b>ACPIXIKF40USBA</b>	KF40 USB-A-A vacuum feed through for PI and Xi (up to $10^{-6}$ mbar)	<b>420</b>
<b>ACPIS</b>	Shutter for PI with servo drive for protection of the camera optics, 100 ms fast-closing mode, incl. control electronics and mounting bracket	<b>570</b>
...CB5	5 m cable between Shutter and electronics	<b>40</b>
...CB10	10 m cable between Shutter and electronics	<b>80</b>

Part-Number	Description	Price in €
<b>Xi 80/ 410/ 320 MT/ xM Process Interfaces</b>		
<b>ACXIPIF</b>	<b>...CB5</b> Industrial Process interface (PIF) for Xi ETH series with connection box (IP65), 500 VAC <sub>RMS</sub> isolation voltage between Xi and process, stackable up to 3 PIFs, 5 m standard cable (85 °C) between Xi and PIF	<b>290</b>
	<b>...CB5H</b> Ind. PIF for Xi ETH series with 5 m high temperature cable (180 °C)	<b>360</b>
	<b>...CB5H2</b> Ind. PIF for Xi ETH series with 5 m high temperature cable (250 °C)	<b>400</b>
	<b>...CB10</b> Ind. PIF for Xi ETH series with 10 m standard cable (85 °C)	<b>305</b>
	<b>...CB10H</b> Ind. PIF for Xi ETH series with 10 m high temperature cable (180 °C)	<b>425</b>
	<b>...CB10H2</b> Ind. PIF for Xi ETH series with 10 m high temperature cable (250 °C)	<b>510</b>
	<b>...CB20</b> Ind. PIF for Xi ETH series with 20 m standard cable (85 °C)	<b>340</b>
	<b>...CB20H</b> Ind. PIF for Xi ETH series with 20 m high temperature cable (180 °C)	<b>540</b>
	<b>...CB20H2</b> Ind. PIF for Xi ETH series with 20 m high temperature cable (250 °C)	<b>660</b>
	<b>...X</b> Ind. PIF for Xi ETH series w/o cable for stacked mounting of several PIFs	<b>275</b>
	<b>Options for ACXIPIFCBxx</b>	
	<b>...RC</b> Right angle connector (not combinable with CG4 or HT cable)	<b>90</b>
	<b>...CG3</b> Pre-installed cable gland M20x1,5 for usage with Outdoor protective housing (max. Ø: 1x8 or 2x6 mm)	<b>10</b>
	<b>...CG4</b> Pre-installed cable gland for Xi ETH series if used together with the Xi water cooled housing	<b>10</b>
<b>ACOPHXIPIF</b>	Industrial Process interface (PIF) for Xi ETH series with 500 VAC <sub>RMS</sub> isolation voltage between Xi and process; 25 cm connection cable to Xi with right angle connector, no housing, for integration into Outdoor protective housing	<b>225</b>
<b>Xi 400/ 640/ PI Process Interfaces</b>		
<b>ACPIPIFMA</b>	<b>...CB5</b> Industrial Process interface (PIF) for PI/ Xi 400/ 640 with connection box (IP65), 500 VAC <sub>RMS</sub> isolation voltage between PI/ Xi and process, 0/4-20 mA analog outputs, 5 m standard cable (85 °C)	<b>260</b>
	<b>...CB5H</b> Ind. PIF for PI/ Xi 400/ 640 with 5 m high temperature cable (180 °C)	<b>330</b>
	<b>...CB5H2</b> Ind. PIF for PI/ Xi 400/ 640 with 5 m high temperature cable (250 °C)	<b>370</b>
	<b>...CB10</b> Ind. PIF for PI/ Xi 400/ 640 with 10 m standard cable (85 °C)	<b>275</b>
	<b>...CB10H</b> Ind. PIF for PI/ Xi 400/ 640 with 10 m high temperature cable (180 °C)	<b>395</b>
	<b>...CB10H2</b> Ind. PIF for PI/ Xi 400/ 640 with 10 m high temperature cable (250 °C)	<b>480</b>
	<b>...CB20</b> Ind. PIF for PI/ Xi 400/ 640 with 20 m standard cable (85 °C)	<b>310</b>
	<b>...CB20H</b> Ind. PIF for PI/ Xi 400/ 640 with 20 m high temperature cable (180 °C)	<b>510</b>
	<b>...CB20H2</b> Ind. PIF for PI/ Xi 400/ 640 with 20 m high temperature cable (250 °C)	<b>630</b>
	<b>Options for ACPIPIFMA</b>	
	<b>...RC</b> Right angle connector (not combinable with HT cable)	<b>90</b>
	<b>...CG3</b> Pre-installed cable gland M20x1,5 for usage with CoolingJacket Adv. and Outdoor protective housing (max. Ø: 1x8 or 2x6 mm)	<b>10</b>
	<b>...CG4</b> Pre-installed cable gland for Xi 400/ 640 if used together with the Xi water cooled housing	<b>10</b>
<b>ACCJAPIPIFMA</b>	Industrial Process interface for PI/ Xi 400/ 640 with 500 VAC <sub>RMS</sub> isolation voltage between imager and process; 25 cm connection cable to imager, no housing, for integration into Outdoor protective housing	<b>195</b>
<b>ACPIPIFSPCB2</b>	PIF splitter with 2 m cable; for simultaneous use of reference source BR20AR with the Process interface (PIF)	<b>95</b>
<b>ACPIRS485USBKV2</b>	RS485/422-USB adapter incl. cable and terminal block, switchable termination resistor, USB extension cable (40 cm)	<b>90</b>

Part-Number	Description	Price in €
<b>Reference source for PI 450i and Xi 400</b>		
<b>ACPIBR20AR</b>	<b>...CB20</b> Ambient temperature reference source, 20 x 20 cm, incl. 16-bit temperature sensor with 0.1 °C accuracy, 20 m connection cable with PIF plug for connecting to PI 450i or Xi 400 camera, Mounting bracket for wall and ceiling mount	<b>450</b>
<b>USB-Server/ PI NetBox/ Software</b>		
<b>ACPIUSBSGB</b>	<b>USB-Server Gigabit 2.0:</b> USB-Ethernet converter for PI/ Xi 400/ 640 incl. 24 VDC power supply	<b>450</b>
<b>ACPIUSBSHT</b>	<b>USB-Server HT:</b> USB-Ethernet converter with max. ambient temperature <b>60 °C</b> , for use with PI 450i and VIS camera in Outdoor protective housing	<b>550</b>
<b>OPTPINB2</b>	<b>...W1032G</b> <b>optris PI NetBox:</b> Mini PC (metal housing) with Intel Atom E3950 QuadCore, 1,6/ 2,0 GHz, 32 GB SSD, 4 GB RAM, 8-48 V or PoE, Micro-HDMI, 3x USB 2.0, GigE, Operating system Windows 10 Enterprise, incl. 32 GB Micro-SDHC card, 24 VDC power supply, Rail mount adapter Micro-HDMI/ HDMI cable, Ethernetcable, USB System recovery stick	<b>1,450</b>
<b>ACPINBPH</b>	Protective housing for PI NetBox, IP65	<b>250</b>
<b>ACPIUSBSPH</b>	Protective housing for USB-Server, IP65	<b>250</b>
	<b>...PS</b> Protective housing incl. industrial power supply	<b>add 80</b>
<b>ACPIPOE</b>	PoE injector for PI NetBox or USB-Server <sup>1)</sup>	<b>95</b>
<b>ACPIXRAVCONSW</b>	<b>RAVI File Converter:</b> Software for converting single frames of radiometric video files (RAVI) into MS Excel/ CSV spreadsheets Scope of supply: software (download link), license key, manual	<b>750</b>
<b>Xi/ PI Spare Parts</b>		
<b>ACPIHC</b>	Carrying case (Alu) for optris PI 400i	<b>60</b>
<b>ACPIXMHC</b>	Carrying case (Alu) for optris PI 1M/ 08M/ 05M	<b>60</b>
<b>ACPIOC</b>	Rugged outdoor case, IP67 for optris PI 450i/ PI 640i	<b>120</b>
<b>ACLSTRP</b>	Table-top tripod	<b>30</b>
<b>ACXIIOCB1</b>	I/O/ RS485 cable for Xi 80/ 410/ xM with terminal block	<b>50</b>
<b>ACPIPIF</b>	Standard Process interface for PI/ Xi 400/ 640, 1 m cable	<b>145</b>
<b>ACXIFB</b>	Mounting bracket for Xi, adjustable in one axis, stainless steel, with tripod thread	<b>25</b>
<b>ACCTXLMN</b>	Mounting nut for Xi, M30x1, stainless steel	<b>15</b>
<b>ACPI SAB</b>	Mounting bracket for PI for usage with Shutter (ACPI SCBxx)	<b>85</b>
<b>ACXIAPLPWSI</b>	Spare protective window (Si) for Xi air purge, laminar	<b>80</b>
<b>ACXIMTAPLPWSI</b>	Spare protective window (Si) for Xi 320 MT air purge, laminar	<b>80</b>
<b>ACXI1MAPLPW33</b>	Spare protective window (Borofloat) for Xi 1M air purge, laminar	<b>100</b>
<b>ACXI05MAPLPW33</b>	Spare protective window (Borofloat) for Xi 05M air purge, laminar	<b>100</b>
<b>ACOPHSF</b>	Spare films (3 pcs.) for Outdoor protective housing ACPIOPH24F and for Air purge laminar (ACCJAAPLF)	<b>20</b>
	<b>Option for ACPIPIF and ACXIIOCB1</b>	
<b>...RC</b>	Right angle connector	<b>90</b>

<sup>1)</sup> For usage of the NetBox together with the high temperature Ethernet cables we recommend the following PoE components instead of ACPIPOE: Trendnet TPE-115GI or Netgear GS510TPP.

Part-Number	Description	Price in €
<b>Calibration certificates - Traceable to PTB transfer standards (all prices shown are valid for one lens)</b>		
ACXICERT	Certificate of Calibration for optris Xi	120
ACXICERTT010	Certificate of Calibration for optris Xi 400 T010 (35 °C)	100
ACXIHTCERT	Certificate of Calibration for optris Xi 400/ 410 incl. 1200 °C	180
ACXIMTCERT	Certificate of Calibration for optris Xi 320 MT	180
ACXI1MCERT	Certificate of Calibration for optris Xi 1M	280
ACXI05MCERT	Certificate of Calibration for optris Xi 05M	300
ACPICERT	Certificate of Calibration for optris PI	120
ACPICERTT010	Certificate of Calibration for optris PI 450i T010 (35 °C)	100
ACPIHTCERT	Certificate of Calibration for optris PI incl. 1200 °C	180
ACPIG7CERT	Cert. of Calibration for optris PI 450i G7/ 640i G7 (200, 500, 1200 °C)	180
ACPI1MLCERT	Certificate of Calibration for optris PI 1M	280
ACPI08MCERT	Certificate of Calibration for optris PI 08M	300
ACPI05MCERT	Certificate of Calibration for optris PI 05M	300
<b>Calibration certificates - Traceable to NIST transfer standards (all prices shown are valid for one lens)</b>		
ACXINIST	Certificate of Calibration for optris Xi	180
ACXIHTNIST	Certificate of Calibration for optris Xi 400/ 410 incl. 1200 °C	270
ACXIMTNIST	Certificate of Calibration for optris Xi 320 MT	270
ACXI1MNIST	Certificate of Calibration for optris Xi 1M	420
ACXI05MNIST	Certificate of Calibration for optris Xi 05M	450
ACPINIST	Certificate of Calibration for optris PI	180
ACPIHTNIST	Certificate of Calibration for optris PI incl. 1200 °C	270
ACPIG7NIST	Cert. of Calibration for optris PI 450i G7/ 640i G7 (200, 500, 1200 °C)	270
ACPI1MLNIST	Certificate of Calibration for optris PI 1M	420
ACPI08MNIST	Certificate of Calibration for optris PI 08M	450
ACPI05MNIST	Certificate of Calibration for optris PI 05M	450
<b>Adjustment (all prices shown are valid for one lens)</b>		
ACXICAL	Adjustment of optris Xi	370
ACXICALT010	Adjustment of optris Xi 400 (temperature range according T010)	330
ACXICALT150	Adjustment 200-1500 °C of optris Xi 400/ 410 (requires a standard adjustment of the camera - ACXICAL)	900
ACXIMTCAL	Adjustment of optris Xi 320 MT	700
ACXI1MCAL	Adjustment of optris Xi 1M	980
ACXI05MCAL	Adjustment of optris Xi 05M	1,150
ACPICAL	Adjustment of optris PI (temperature ranges according to T900/ T090)	370
ACPICALT010	Adjustment of optris PI 450i (temperature range according to T010)	330
ACPICALT1500	Adjustment 200-1500 °C of optris PI (requires a standard adjustment of the camera - ACPICAL)	900
ACPIG7CAL	Adjustment of optris PI 450i G7/ 640i G7	450
ACPIG7CALT300	Adjustment of optris PI 640i G7 (Ranges: 200-3000 °C/ 150-900 °C)	2,100
ACPI1MLCAL	Adjustment of optris PI 1M	980
ACPI08MCAL	Adjustment of optris PI 08M	1,150
ACPI05MCAL	Adjustment of optris PI 05M	1,150

## Outdoor Protective Housing

Universal outdoor protection housing for optris PI, Xi and CxL series for ambient temperatures from -40 to 50 °C

**Scope of Supply:** Outdoor Protective Housing with integrated heater and fan, air purge collar with protective window (PI and CxL only), mounting preparation for PI, Xi or CxL, for USB Server Gigabit and for Industrial Process interface, 25 cm USB cable with USB-A-right angle connector, Operators manual

Part-Number	Description	Price in €
<b>ACPIOPH24GE</b>	Outdoor protective housing <sup>1)</sup> for PI (up to 90° FOV), for USB Server and for Industrial Process interface with integrated heater, incl. prot. window (Germanium) and air purge collar/ 24 V DC	<b>1,290</b>
<b>ACPIOPH24ZNS</b>	Outdoor protective housing <sup>1)</sup> for PI (up to 90° FOV), for USB Server and for Industrial Process interface with integrated heater, incl. prot. window (ZnS) and air purge collar/ 24 V DC	<b>1,490</b>
<b>ACPIOPH24F</b>	Outdoor protective housing <sup>1)</sup> for PI (up to 90° FOV), for USB Server and for Industrial Process interface with integrated heater, incl. prot. window (plastic film/ 3 spare films) and air purge collar/ 24 V DC	<b>850</b>
<b>ACPIOPH24B1M</b>	Outdoor protective housing <sup>1)</sup> for PI1M/ 08M (not for O9 lens), for USB Server and for Industrial Process interface with integrated heater, incl. prot. window (Borofloat) and air purge collar/ 24 V DC	<b>980</b>
<b>ACPIOPH24B05M</b>	Outdoor protective housing <sup>1)</sup> for PI05M (up to 90° FOV), for USB Server and for Industrial Process interface with integrated heater, incl. prot. window (Borofloat) and air purge collar/ 24 V DC	<b>980</b>
<b>ACXIOPH24</b>	Outdoor protective housing <sup>1)</sup> for Xi (up to 80° FOV), for USB Server and for Industrial Process interface with integrated heater, incl. air purge collar/ 24 V DC	<b>595</b>
<b>ACCTLOPH24ZNS</b>	Outdoor protective housing <sup>1)</sup> for CTlaser LT/ CSlaser LT with integrated heater, incl. prot. window (ZnS) and air purge collar/ 24 V DC	<b>1,490</b>
<b>ACCTLOPH24B1M</b>	Outdoor protective housing <sup>1)</sup> for CTlaser 1M with integrated heater, incl. prot. window (Borofloat) and air purge collar/ 24 V DC	<b>980</b>

### Options

<b>...VIS</b>	<b>HD video camera option:</b> 1280x720 px, 30 Hz, 65° DFOV <i>Please note: USB Server Gigabit is required.</i>	<b>180</b>
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### Accessories

<b>ACOPHWM</b>	Wall mount for Outdoor protective housing	<b>60</b>
<b>ACOPHTMP</b>	Tripod mounting plate for Outdoor protective housing	<b>40</b>

<sup>1)</sup> For a problem-free wall mounting of the Outdoor protective housing the wall mount (ACOPHWM) is mandatory.

Universal protection housing for optris PI, CTlaser, CSlaser, CTvideo, CSvideo and CSvision for ambient temperatures up to 315 °C (CxL, CxV, CSvision: 250 °C)

**Scope of Supply:** CoolingJacket Advanced incl. mounting bracket, Operators manual  
For ordering please select a housing (incl. chassis) in the desired version (S/ EN/ EU) and a focusing unit or front part. The CoolingJacket Advanced will be supplied completely assembled if ordered together with camera, IR thermometer and accessories.

Part-Number	Description	Price in €
<b>ACPICJA</b>	<b>Housing incl. Chassis:</b> CoolingJacket Advanced for PI cameras	<b>1,550</b>
<b>ACCXLCJA</b>	CoolingJacket Advanced for Cxlaser, Cxvideo, CSvision	<b>995</b>
	<b>Version:</b>	
...S	Standard version	<b>0</b>
...EN	Extended version (for ACPICJA only) incl. mounting support for PI NetBox 25 cm USB cable with USB-A-right angle connector, mounting support for industrial process interface (ACCJAPIPIFMA)	<b>350</b>
...EU	Extended version incl. mounting support for USB Server Gigabit <sup>1)</sup> , 25 cm USB cable with USB-A-right angle connector, mounting support for industrial process interface (ACCJAPIPIFMA)	<b>350</b>
	<b>Focusing unit/ Front part:</b>	
<b>ACCJA</b> ...FU4X	focusing unit for PI4xxi (18°/ 29°/ 53° lens)	<b>190</b>
...FU4XO80	focusing unit for PI4xxi (80° lens)	<b>190</b>
...FU64XM	focusing unit for PI640i (33°/ 60° lens) and for PI xM (13°/ 27°/ 41° lens)	<b>190</b>
...FU64O15	focusing unit for PI640i (15° lens)	<b>190</b>
...FU64O90	focusing unit for PI640i (90° lens)	<b>190</b>
...FUXMO9	focusing unit for PI xM (9° lens)	<b>190</b>
...FPCXL	front part for Cxlaser, Cxvideo, CSvision	<b>150</b>
...FPCXLST	front part for Cxlaser, Cxvideo, CSvision incl. pipe flange (ACHAPF) and sighting tube (ACHAST300)	<b>300</b>

### Accessories

<b>ACCJAPIPIFMA</b>	Industrial Process interface for PI/ Xi 400 with 500 VAC <sub>RMS</sub> isolation voltage between imager and process; 25 cm connection cable to imager, no housing, for integration into CoolingJacket Advanced (Extended version)	<b>195</b>
<b>ACCJAMF</b>	Mounting flange for CoolingJacket Advanced	<b>170</b>
<b>ACCJAPF</b>	Pipe flange for CoolingJacket Advanced, fitting to sighting tubes with M48x1,5 thread	<b>80</b>
<b>ACCJAAPL</b>	Air purge laminar for CoolingJacket Advanced <i>A protective window (67 x 3 mm) has to be ordered separately.</i>	<b>590</b>
<b>ACCJAAPLF</b>	Air purge laminar for CoolingJacket Advanced incl. plastic film window	<b>590</b>
	<b>Version</b>	
...S	for standard IR camera applications and for CxL and CxV sensors, fitting to all focusing units <sup>2)</sup> and to the front part FPCXL	<b>0</b>
...L	for line scanning applications, fitting to all focusing units <sup>2)</sup>	<b>0</b>

<sup>1)</sup> The USB Server Gigabit needs to be powered via PoE if installed in the CoolingJacket Advanced.

<sup>2)</sup> with production date ≥ 01/2018 / except 60°, 80° and 90° lens / 80° lens: line scanning in horizontal orientation is possible

## CoolingJacket Advanced

Part-Number	Description	Price in €
<b>Accessories</b>		
<b>ACCJACC</b>	<b>...3M</b> Cable cooling system <sup>1)</sup> for CoolingJacket Advanced for Ambient temperatures >250 °C incl. complete assembling kit and 3 m high temperature flex tube with stainless steel mesh	<b>370</b>
	<b>...5M</b> Cable cooling with 5 m high temperature flex tube	<b>485</b>
	<b>...8M</b> Cable cooling with 8 m high temperature flex tube	<b>650</b>

## Protective windows and grids

	<b>50,8 x 3 mm/ for CoolingJacket Advanced with all focusing units (except 90° lens) or with front part FPCXL and for Outdoor Protective housing:</b>	
<b>ACCJAPWGE714M51X3</b>	Protective window, Germanium, AR coated, for PI/ CxL (LT, G7, P7)	<b>390</b>
<b>ACCJAPWZNS714M51X3</b>	Protective window, ZnS, AR coated, for PI/ CxL (LT, G7, P7)	<b>590</b>
<b>ACCJAPWSI35M51X3</b>	Protective window, Silicon, for CTlaser 4M	<b>330</b>
<b>ACCJAPWBF1M51X3</b>	Protective window, Borofloat, AR coated, for PI/ CxL/ CxV (08M, 1M)	<b>105</b>
<b>ACCJAPWBF05M51X3</b>	Protective window, Borofloat, AR coated, for PI/ CxL (05M)	<b>105</b>
<b>ACCJAPWSA51X3</b>	Protective window, Sapphire, for CxL/ CxV (05M, 1M, 2M, 3M, MT, F2, F6, G5)	<b>120</b>
	<b>67 x 3 mm/ for Air purge laminar:</b>	
<b>ACCJAPWGE714M67X3</b>	Protective window, Germanium, AR coated, for PI/ CxL (LT, G7, P7)	<b>680</b>
<b>ACCJAPWZNS714M67X3</b>	Protective window, ZnS, AR coated, for PI/ CxL (LT, G7, P7)	<b>720</b>
<b>ACCJAPWSI35M67X3</b>	Protective window, Silicon, for CTlaser 4M	<b>370</b>
<b>ACCJAPWBF67X3</b>	Protective window, Borofloat, for CxL/ CxV (05M, 1M, 2M, 3M)	<b>110</b>
<b>ACCJAPWBF1M67X3</b>	Protective window, Borofloat, AR coated, for PI/ CxL/ CxV (08M, 1M)	<b>110</b>
<b>ACCJAPWBF05M67X3</b>	Protective window, Borofloat, AR coated, for PI/ CxL (05M)	<b>110</b>
<b>ACCJAPGMS2</b>	Lens protective grid for CoolingJacket Adv., mesh size 2 mm	<b>105</b>
<b>ACCJAPGMS3</b>	Lens protective grid for CoolingJacket Adv., mesh size 3,15 mm	<b>105</b>

*If ordered together with the CoolingJacket the windows are assembled into the focusing unit. Protective grids are only sold pre-assembled.*

## High temperature cables: Ethernet (for installation of NetBox or USB-Server inside CoolingJacket)

	<b>for USB-Server:</b>	
	<b>incl. 2x RJ45 connector and cable gland M25 (pre-assembled):</b>	
<b>ACCJAETCB10H</b>	High temperature Ethernet cable Cat.6 (180°C), 10 m	<b>350</b>
<b>ACCJAETCB20H</b>	High temperature Ethernet cable Cat.6 (180°C), 20 m	<b>620</b>
<b>ACCJAETCB10H2</b>	High temperature Ethernet cable Cat.6 (250°C), 10 m	<b>740</b>
<b>ACCJAETCB20H2</b>	High temperature Ethernet cable Cat.6 (250°C), 20 m	<b>1,390</b>
	<b>for NetBox:</b>	
<b>...RC</b>	Right angle RJ45 connector on one side	<b>0</b>

## High temperature cables: Process Interface (industr.)

	<b>7-pin cable (open ends on both sides) for outputs and inputs of industrial PIF</b>	
<b>ACCJAPIFCB5H</b>	High temperature 7-pin cable (180°C), 5 m	<b>75</b>
<b>ACCJAPIFCB10H</b>	High temperature 7-pin cable (180°C), 10 m	<b>145</b>
<b>ACCJAPIFCB20H</b>	High temperature 7-pin cable (180°C), 20 m	<b>280</b>
<b>ACCJAPIFCB5H2</b>	High temperature 7-pin cable (250°C), 5 m	<b>100</b>
<b>ACCJAPIFCB10H2</b>	High temperature 7-pin cable (250°C), 10 m	<b>195</b>
<b>ACCJAPIFCB20H2</b>	High temperature 7-pin cable (250°C), 20 m	<b>380</b>

<sup>1)</sup> For a sufficient cooling power a Vortex tube is required. (recommendation: [www.exair.com](http://www.exair.com))  
The cable cooling will only be supplied completely pre-assembled together with the CoolingJacket Advanced.

Part-Number	Description	Price in €
<b>Spare Parts</b>		
<b>ACCJASAB</b>	Mounting bracket for CoolingJacket Advanced (Standard version)	<b>140</b>
<b>ACCJAEAB</b>	Mounting bracket for CoolingJacket Advanced (Extended version)	<b>170</b>
<b>ACCJACHPI</b>	Exchange chassis for CoolingJacket Advanced for PI	<b>510</b>
<b>ACCJACHCTL</b>	Exchange chassis for CoolingJacket Advanced for Cxlaser, Cxvideo, CSvision	<b>510</b>
<b>...S</b>	Standard version	<b>0</b>
<b>...EN</b>	Extended version incl. mounting support for PI NetBox, mounting support for industrial process interface (ACCJAPIPIFMA)	<b>300</b>
<b>...EU</b>	Extended version incl. mounting support for USB Server Gigabit <sup>1)</sup> , mounting support for industrial process interface (ACCJAPIPIFMA)	<b>300</b>
<b>ACCJAMKEN</b>	Mounting kit for PI NetBox and industr. process interface	<b>220</b>
<b>ACCJAMKEU</b>	Mounting kit for USB Server Gigabit and industr. process interface	<b>75</b>

<sup>1)</sup> The USB Server Gigabit needs to be powered via PoE if installed in the CoolingJacket Advanced.

## Calibration / Reference IR Thermometers

### Additional calibration temperatures

For calibration certificates for online IR thermometers (ACxxCERT or ACxxHTCERT) maximum two additional calibration points can be ordered.

Please exchange **xx** in the part number below by the according article code (CS, CSM, CT, CSL, CTL, CSV, CTV, CTRF, CSVI). The feasibility of each desired temperature point has to be clarified up-front by our sales or service department. Additional calibration points for Reference IR thermometers (DCI) are not possible.

Part-Number	Description	Price in €
<b>Additional calibration points - traceable to PTB transfer standards</b>		
<b>ACxxCERTP</b>	Additional calibration point for certificate (in the range 25...490 °C)	<b>200</b>
<b>ACxxHTCERTP</b>	Additional calibration point for certificate (in the range 500...1390 °C)	<b>260</b>
<b>ACxxHT2CERTP</b>	Additional calibration point for certificate (in the range 1400...2600 °C)	<b>480</b>
<b>Additional calibration points - traceable to NIST transfer standards</b>		
<b>ACxxNISTP</b>	Additional calibration point for certificate (in the range 25...490 °C)	<b>300</b>
<b>ACxxHTNISTP</b>	Additional calibration point for certificate (in the range 500...1390 °C)	<b>390</b>
<b>ACxxHT2NISTP</b>	Additional calibration point for certificate (in the range 1400...2600 °C)	<b>720</b>

### optris CTlaser DCI

Calibration reference IR thermometer for verification of the radiation temperature of a black body calibration source, with double laser spot marking, Stainless steel sensing head (M 48x1,5) and separate configurable electronics, Analog outputs (selectable: 0/4-20 mA, 0-5 V, 0-10 V, thermocouple), Digital interfaces optional (alternatively USB, RS232, RS485, Profibus DP, Ethernet)

**Scope of supply:** CTlaser LT DCI with calibration certificate, mounting nut and mounting bracket (ACCTLFBT), 3m head cable, Electronic box with LCD display and programming keys, Operators manual

Part-Number	Description	Price in €
<b>OPTCTLLTSFDCI</b>	<b>optris CTlaser LT DCI - Calibration reference pyrometer:</b> incl. Certificate of calibration with 3 calibration points: 25 °C, 166 °C, 350 °C Meas. range: -50-975 °C/ 8-14 µm/ SF optics: 16 mm@ 1200 mm (75:1)	<b>1,400</b>

### Calibration

<b>ACCTLDCICERT</b>	Certificate of Calibration for optris CTlaser LT DCI (3 temperature points)	<b>150</b>
<b>ACCLTDCICALI</b>	Adjustment incl. certificate for optris CTlaser LT DCI	<b>350</b>