

| | | | |
|------------------------------------|--|---------------------------------------|----------------------------------|
| Алматы (7273)495-231 | Калининград (4012)72-03-81 | Омск (3812)21-46-40 | Сыктывкар (8212)25-95-17 |
| Ангарск (3955)60-70-56 | Калуга (4842)92-23-67 | Орел (4862)44-53-42 | Тамбов (4752)50-40-97 |
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| Барнаул (3852)73-04-60 | Коломна (4966)23-41-49 | Петрозаводск (8142)55-98-37 | Томск (3822)98-41-53 |
| Белгород (4722)40-23-64 | Кострома (4942)77-07-48 | Псков (8112)59-10-37 | Тула (4872)33-79-87 |
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| Брянск (4832)59-03-52 | Красноярск (391)204-63-61 | Ростов-на-Дону (863)308-18-15 | Ульяновск (8422)24-23-59 |
| Владивосток (423)249-28-31 | Курск (4712)77-13-04 | Самара (846)206-03-16 | Улан-Удэ (3012)59-97-51 |
| Владикавказ (8672)28-90-48 | Курган (3522)50-90-47 | Саранск (8342)22-96-24 | Уфа (347)229-48-12 |
| Владимир (4922)49-43-18 | Липецк (4742)52-20-81 | Санкт-Петербург (812)309-46-40 | Хабаровск (4212)92-98-04 |
| Волгоград (844)278-03-48 | Магнитогорск (3519)55-03-13 | Саратов (845)249-38-78 | Челябинск (351)202-03-61 |
| Вологда (8172)26-41-59 | Москва (495)268-04-70 | Севастополь (8692)22-31-93 | Череповец (8202)49-02-64 |
| Воронеж (473)204-51-73 | Мурманск (8152)59-64-93 | Симферополь (3652)67-13-56 | Чита (3022)38-34-83 |
| Екатеринбург (343)384-55-89 | Набережные Челны (8552)20-53-41 | Смоленск (4812)29-41-54 | Якутск (4112)23-90-97 |
| Иваново (4932)77-34-06 | Нижний Новгород (831)429-08-12 | Сочи (862)225-72-31 | Ярославль (4852)69-52-93 |
| Ижевск (3412)26-03-58 | Новокузнецк (3843)20-46-81 | Ставрополь (8652)20-65-13 | |
| Иркутск (395)279-98-46 | Ноябрьск (3496)41-32-12 | Сургут (3462)77-98-35 | |
| Казань (843)206-01-48 | Новосибирск (383)227-86-73 | | |
| | Киргизия (996)312-96-26-47 | Россия (495)268-04-70 | Казахстан (772)734-952-31 |

Precise non-contact temperature measurement of liquid metals from 1000 °C to 2000 °C

Features:

- Precise temperature measurement of molten metal
- Decrease of measurement errors at emissivity changes or wrong settings thanks to short wavelength of 525 nm
- Temperature range from 1000 °C to 2000 °C, measuring fields from 1 mm and exposure times from 1 ms
- Suited for ambient temperatures of 85 °C without additional cooling, laser switches of automatically at 50 °C
- Optical resolution 150:1, focus settings scalable
- Double laser visor with 2 laser beams for exact measuring field marking and focussing



Measurement specifications

| | |
|---|---|
| Temperature range (scalable via programming keys or software) | 1000 °C ... 2000 °C |
| Spectral range | 525 nm |
| Optical resolution (90 % energy) | 150:1 (3ML) |
| System accuracy ²⁾ (at ambient temp. 23 ± 5 °C) | ± 1 % of reading (≤ 1100 °C) ± (0.3 % of reading + 2 °C) (> 1100 °C) |
| Repeatability (at ambient temp. 23 ± 5 °C) | ± 0.5 % of reading (≤ 1100 °C) ± (0.1 % of reading + 1 °C) (> 1100 °C) |
| Temperature resolution | 0.2 K |
| Exposure time ³⁾ | 1 ms (90 %) |
| Emissivity/ Gain (adjustable via programming keys or software) | 0.100 – 1.100 |
| Transmissivity/ Gain (adjustable via programming keys or software) | 0.100 – 1.100 |
| Signal processing (parameter adjustable via programming keys or software, respectively) | Peak hold, valley hold, average; extended hold function with threshold and hysteresis |
| Software | optris® Compact Connect |

¹⁾ The functioning of the LCD display may be limited in ambient temperatures below 0 °C

²⁾ ε = 1, Exposure time 1 s

³⁾ With dynamic adaptation at low signal levels

General specifications

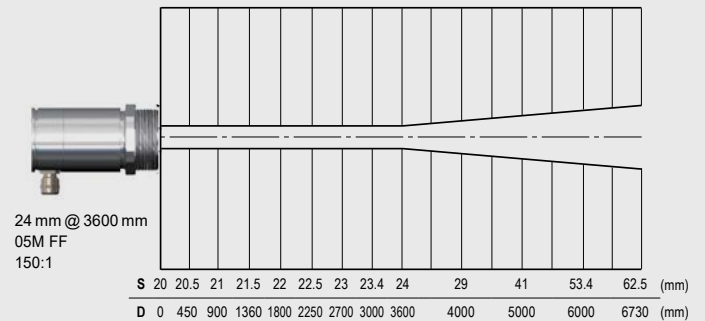
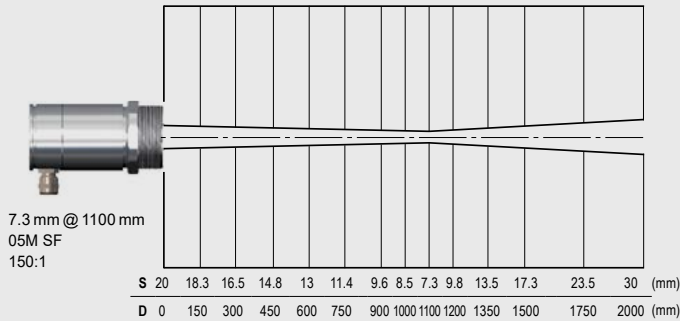
| | |
|-----------------------------------|--|
| Environmental rating | IP 65 (NEMA-4) |
| Ambient temperature ¹⁾ | -20 °C ... 85 °C (sensing head, 50 °C with laser ON) -20 °C ... 85 °C (electronics) |
| Storage temperature | -40 °C ... 85 °C (sensing head) -40 °C ... 85 °C (electronics) |
| Relative humidity | 10 – 95 %, non-condensing |
| Vibration (sensor) | IEC 68-2-6: 3 G, 11 – 200 Hz, any axis |
| Shock (sensor) | IEC 68-2-27: 50 G, 11 ms, any axis |
| Weight | 600 g (sensing head) / 420 g (electronics) |

Electrical specifications

| | |
|-------------------|--|
| Outputs / analog | 0/4 – 20 mA, 0 – 5/ 10 V, thermocouple J, K |
| Alarm output | 24 V / 50 mA (open collector) |
| Optional | Relay: 2 x 60 V DC/ 42 V AC _{eff} ; 0.4 A; optically isolated |
| Outputs / digital | USB, RS232, RS485, CAN, Profibus DP, Ethernet (optional) |
| Output impedances | mA max. 500 Ω (with 8 – 36 V DC) mV min. 100 kΩ load impedance thermocouple 20 Ω |
| Inputs | Programmable functional inputs for external emissivity adjustment, ambient temperature compensation, trigger (reset of hold functions) |
| Cable length | 3 m (standard), 8 m, 15 m |
| Power Supply | 8 – 36 V DC |
| Current draw | max. 160 mA |
| Laser 635 nm | 1 mW, ON/OFF via electronic box or software |

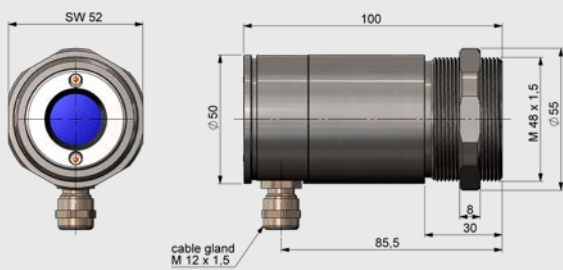
optris® CTlaser 05M

Optical specifications

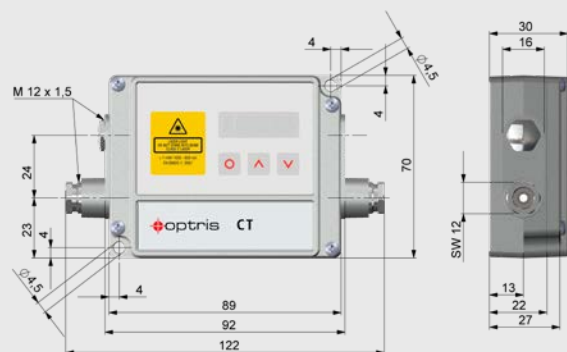


Dimensions

Sensing head



Electronics



Accessories (examples)

Mounting angle, adjustable
in two axes (ACCTLAB)



Cooling housing
(ACCJCTL)



Mounting angle for cooling housing,
adjustable in two axes (ACCJAB)



Water cooling and air purge for
sensing head (ACCTLW + ACCTLAP)



Mounting device for cooling housing
(ACCTLRM)



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