

Analog Outputs

The optris CT devices of the compact and high performance series consists of an **electronic box**. The **analog interfaces** are connected to the box via connecting braces. One of the options, mV, mA or thermocouple (TC), can be chosen from the software optris Compact Connect for configuration as output.

The **object temperature** as well as the **alarm** can be displayed via the analog interface. An additional alarm output is available using the **open-collector**.

Output signal	Range	Connection pin within box
Voltage	0 ... 5 V	OUT-mV/mA
Voltage	0 ... 10 V	OUT-mV/mA
Current	0 ... 20 mA	OUT-mV/mA
Current	4 ... 20 mA	OUT-mV/mA
Thermocouple	TC J	OUT-TC
Thermocouple	TC K	OUT-TC

Overview of the analog outputs of the electronic box.

Functional Inputs

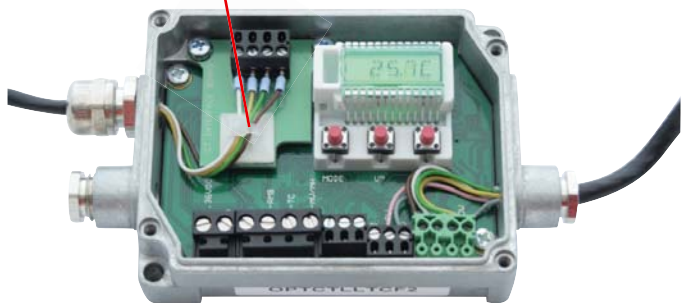
The three **functional inputs** of the box F1, F2 and F3 are programmed via the software optris Compact Connect. The inputs offer the following setup possibilities:

- F1 (digital): Trigger
- F2 (analog): Emissivity (external)
- F3 (analog): Background temperature compensation (external)
- F1-F3 (digital): Emissivity (external)

Maximum Flexibility through Digital, Exchangeable Interface Modules

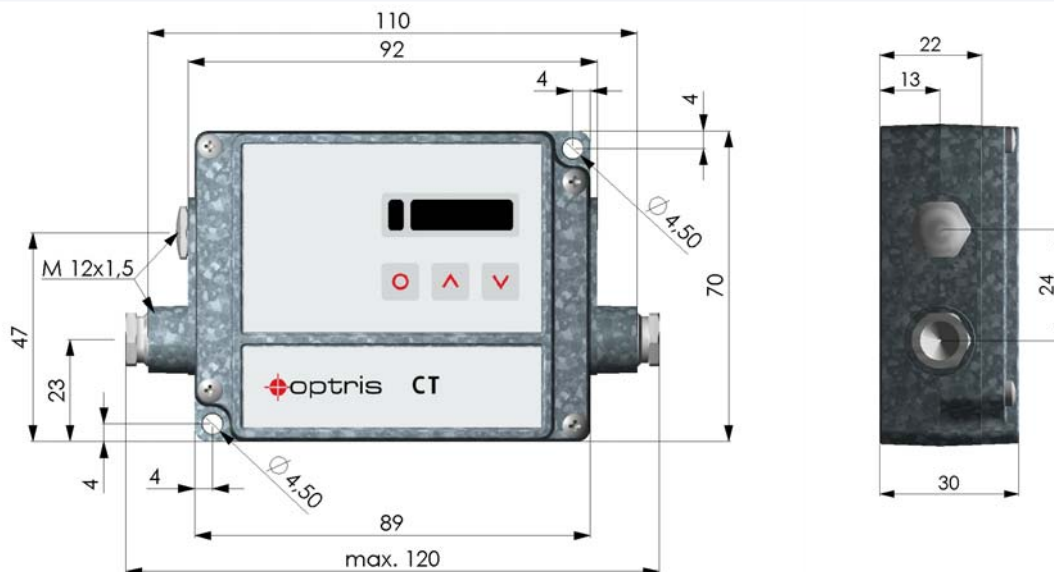
The electronic boxes, included with the devices, can optionally be supplied with a USB-, RS232-, RS485-, Relay-, Profibus DP-, CAN-Bus- or Ethernet interface. If required, a quick and simple exchange of the **digital interface circuit board** is possible.

The adequate circuit board will then be placed into the intended area at the electronic box and the interface cable will be connected with the circuit board via the pre-assembled connecting brace.



Pluggable, digital interface modules for maximal flexibility; simple to install via standard modules.

Size of the Electronic Box

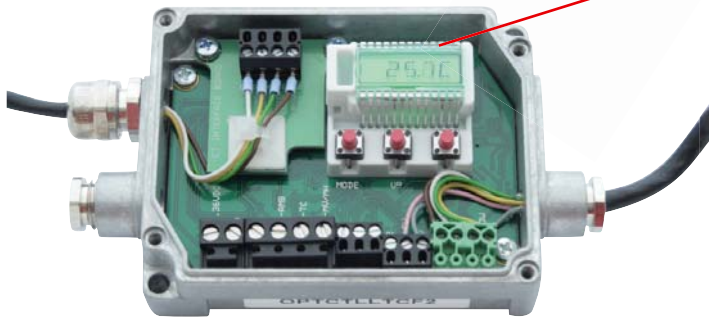


Dimensions in mm

Intelligent Alarm Display

Oversteppings or undercutting of thresholds can be displayed via the alarm options at the electronic box through **changing colors at the LCD display**.

The **visual alarm** can additionally be setup to the configured alarm output of the box or to the optional relay interface.



Green display:
Temperature within limit
of tolerance.



Blue display:
Temperatur below
threshold.



Red display:
Temperature above
threshold.



Simple Exchange of Sensing Head, Cable or Electronic Box

The attached sensing head and the head cable at the electronic box are factory-made.

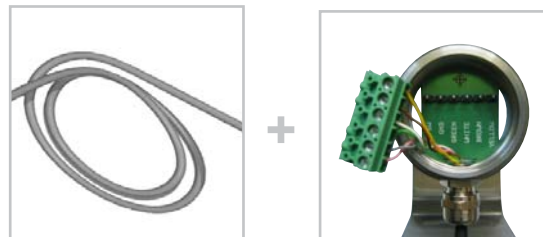
Various possibilities to exchange the **sensing heads, cables and electronic boxes** are available if process parameters are changing or in case of damage. Optris therefore offers its customers a **maximum of flexibility** with low exchange costs.



Example 1: Compact series



Example 2: High performance series



Electronic box, cable, sensing head are exchangeable in various versions.

Application Example: Simple Multiple Installation via Electronic Box (RS485)

The following display shows how multiple measurement devices can be combined with each other via the electronic box and the RS485 interface. It is possible to operate up to **32 sensors in one network** using the **RS485 mode**. In this example, the optris CSmicro LT measures a reference temperature to compensate the background temperature within the process which will be considered during the temperature calculation of the other measuring devices.

