

# Power and Interface Switching Module ConTrace IPS

## Purpose

The main purpose of the ConTrace IPS module is to provide the ConTrace MS modules with power and RS-485 communication interface. In addition to the MS modules, remote temperature measurement modules ConTrace AS and remote temperature measurement units ConTrace AS-xxx-Ex can also be connected to the ConTrace IPS module. In this way, all ConTrace devices form a single control system for electrical heating, ready for connection via the RS-485 Modbus RTU protocol to an industrial computer or PLC with the installed specialized software ConTrace.

Thanks to ConTrace IPS modules, the control system can be extended during operation by adding new ConTrace MS control modules and ConTrace AS remote temperature measurement devices.

## Description

The ConTrace IPS module, depending on the number of MS modules connected to it, is connected to the power units of the appropriate power, as well as to the RS-485 network, for communication with the industrial PC / PLC. Further, through the patch cord, it simultaneously transmits power and interface to the

ConTrace MS modules. Further, through the patch cord, it simultaneously transmits power and interface to the ConTrace MS modules. IPS has 2 outputs, combining power and interface buses. For each output, up to 20 MS modules can be connected in series. Thus, with the help of one IPS, it is possible to power up to 40 MS modules.

ConTrace IPS can work from either one or two power supplies. Operation from two power sources is assumed by the principle of primary / backup, with automatic switching to a working power supply and simultaneous signaling by closing the alarm relay contact. The IPS module is protected against excess supply voltage.

Each of the two output power and interface lines is equipped with its own protection against overcurrent, undervoltage and overvoltage. The operation of the protection is indicated by the LEDs on the front panel. Resetting the protection is done by pressing the "Reset" buttons on the device, separately for each outgoing line.

ConTrace IPS is supplied with three terminators of the ConTrace BT bus. This set is sufficient for implementing any connection scheme.

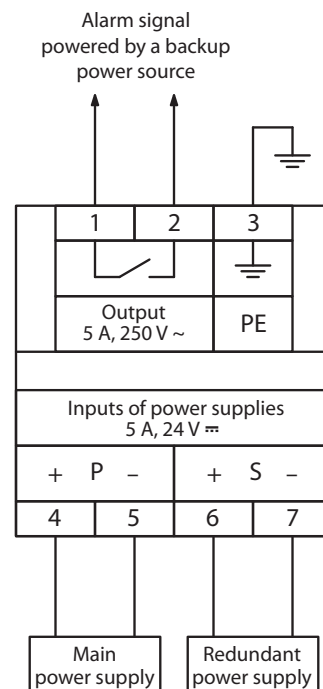
## Construction



## Features and Application Areas

- Power and interface switching RS-485 for 40 MS modules
- Networking for 247 MS, AS, and AS-xxx-Ex Units
- Automatic switching from primary to redundant power supplies
- Indication and notification of alarms
- Protection of incoming and outgoing circuits

## Wiring Diagram



# Electric Heating Control System ConTrace

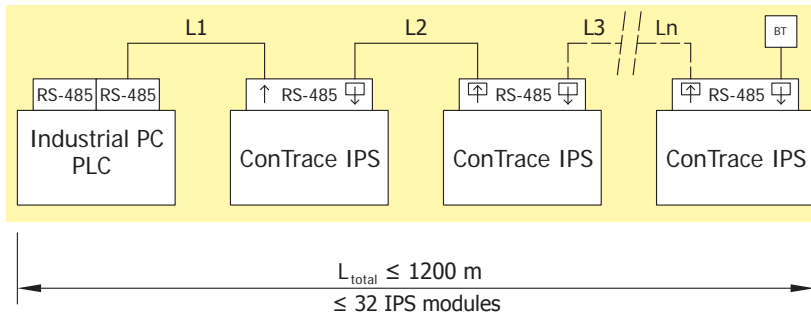
## Technical Data

Module supply voltage	20...30 V $\overline{=}$
Power consumption, max	3 W
Maximum number of MS modules	40 pcs <sup>°</sup>
Maximum number of MS modules in one RS-485 network segment	247 pcs
Maximum number of IPS modules in one RS-485 network segment without a repeater	32 pcs
Type of connectors RS-485+24 $\overline{=}$ и RS-485	8P8C
Type of connection cable RS-485+24 $\overline{=}$ и RS-485	UTP/FTP cat.5
Data transfer interface	RS-485
Built-in RS-485 signal repeater	Yes
The maximum current of each output line	3 A
Maximum allowable current for each output line	5 A

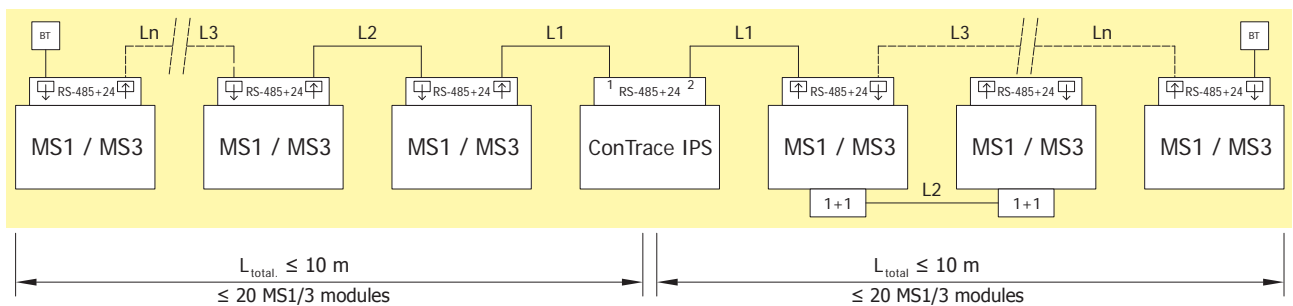
Maximum permissible long-term power	120 W
Discrete alarm output	250 V, 5 A
Type of terminal clamps	detachable
Clamping mechanism type of terminal clamps	spring
Cross-section / number of simultaneously connected wires to terminals	up to 2.5 mm <sup>2</sup> / 1
Operating temperature range	-40...+50 °C
Mounting type	DIN-rail 35 mm
Degree of protection	IP20
Dimensions (W×H×D), mm	45×75×109.7
Weight, g	145
Service life	not less than 10 years

<sup>°</sup> Taking into account the connected redundant modules in the "1 + 1" scheme

## Scheme of Connection IPS Modules in RS-485 Network



## Scheme of Connection MS1 / 3 Modules to the IPS Module



## Approvals



## Types

Name	Order code
Power and interface switching module ConTrace IPS	3220002010