Series 200

I/O System Accessories

The Series 200 I/O System features a number of accessories, such as adapters, cables, terminal base units and dummy units, for various applications.

The central I/O units, connected to the central system, may have from one to six rows of 200-ANN adapters, each with up to eight I/O units, i.e. a maximum of 48 units. Each I/O unit has up to 16 I/O.

To reduce cabling, the I/O system may be located closer to the process by means of remote I/Os.

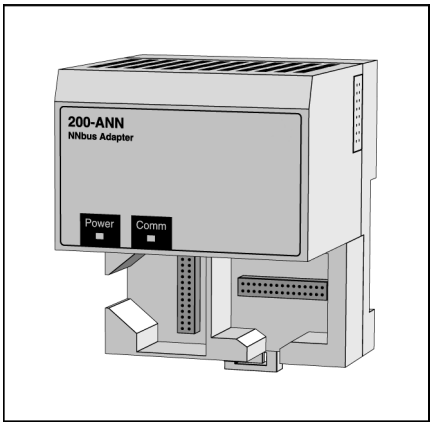
The units of Series 200 are used by SattCon 200 and SattLine to varying extents and in various combinations.

A maximum of 31 remote I/O adapters, 200-ACN, each with up to eight I/O units, may be connected to one ControlNet™ communication interface unit 200-CICN. The number of 200-ACN units connected, depends on which system is used (SattCon, SattLine).

The series 200 I/O System features:

- Integrated terminal strips
- CE and UL approvement
- Software configurable functions
- Mechanical coding for safe replacement
- Safety function on outputs in remote configuration
- Variety of termination options
- The same I/O units in central and remote configurations

Adapters
200-ANN



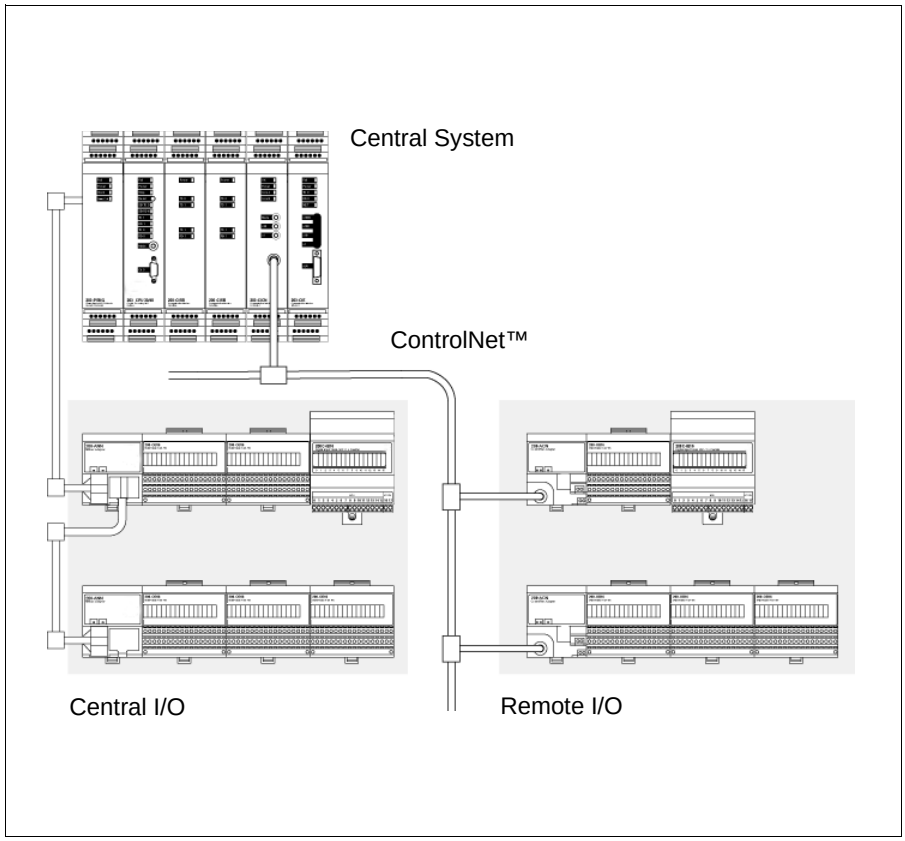
200-ANN is a central I/O adapter unit used for connection of the central system to the central I/O system.

A maximum of six 200-ANN units may each connect up to eight terminal base units equipped with I/O units. The total current consumption for the central I/O system must be considered and must not exceed 3 A.

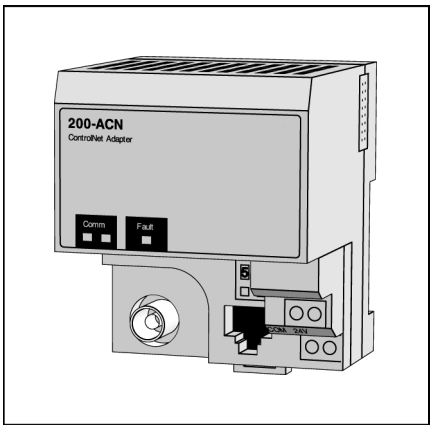
The central I/O adapter unit passes on data from the CPU to the I/O system and vice versa. It also connects adjacent adapters in a central I/O system.

The power for this unit is taken from the system bus and is indicated by the left-hand Power LED on the front panel.

The status of the adapter is indicated by the right-hand Comm LED on the front panel. It is lit when 200-ANN is initiated by the CPU.



200-ACN



200-ACN is a remote I/O adapter unit, intended for connection of up to eight terminal base units equipped with I/O units. 200-ACN is connected to the 200-CICN unit in the central system via ControlNet™.

The remote I/O adapter unit passes on data from the central system to the remote I/O system and vice versa.

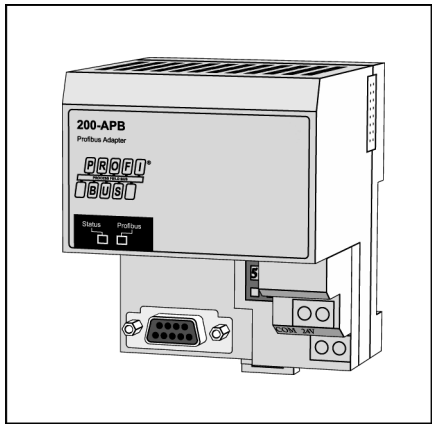
The power for this unit is taken from a 24 V DC supply. The status of the adapter is indicated by the LEDs on the front panel.

200-APB

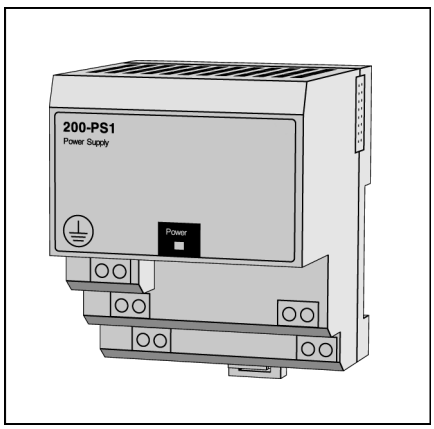
200-APB is a remote I/O adapter unit, intended for connection of the I/O system to a control system via PROFIBUS-DP. 200-APB is connected to the 200-CIPB/DP unit in the central system via PROFIBUS-DP.

The remote I/O adapter unit passes on data from the central system to the remote I/O system and vice versa.

The power for this unit is taken from a 24 V DC supply. The status of the adapter is indicated by the LEDs on the front panel.



Power Supply Unit
200-PS1



Power supply 200-PS1 supplies the remote I/O system with power.

The power is taken from a main voltage outlet and the status of the output voltage is indicated on the Power LED on the front panel.

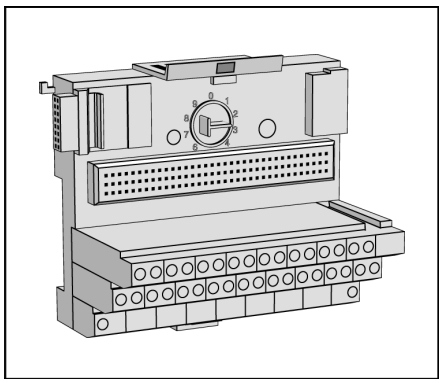
200-PS1 provides sufficient 24 V DC power to supply up to three adapter units.

Terminal Base Units

The terminal base units are designed to connect an I/O unit and a number of devices to the I/O system.

A code key is provided to prevent insertion of incorrect I/O units into a preconfigured terminal base unit.

200-TB2



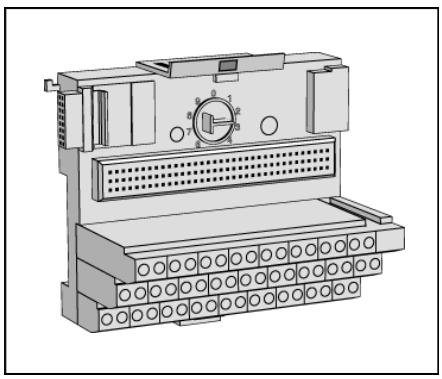
200-TB2 is designed to connect an I/O unit and a number of two-wire devices to the I/O system.

200-TB2 is equipped with three screw terminal rows. The upper row has sixteen terminals for input/output signals.

The middle row consists of eighteen 0 V DC screw terminals which are internally connected. The rightmost and leftmost screw terminals are for connection to the power supply.

The lower row consists of two +24 V DC screw terminals, internally connected. These terminals are for connection to the power supply.

200-TB3



200-TB3 is designed to connect an I/O unit and a number of two- or three-wire devices to the I/O system.

200-TB3 is equipped with three screw terminal rows. The upper row has sixteen terminals for input/output signals.

The middle row consists of eighteen 0 V DC screw terminals, which are internally connected. The rightmost and leftmost screw terminals are for connection to the power supply.

The lower row consists of eighteen +24 V DC screw terminals, internally connected and intended for power supply to sensors. The leftmost and rightmost terminals are for connection to the power supply.

200-TB3S

200-TB3S is designed to connect an I/O unit and a number of two- or three-wire devices to the I/O system.

200-TB3S is equipped with three rows of cage clampwire clamp terminals. The upper row has sixteen terminals for input/output signals.

The middle row consists of eighteen 0 V DC screw terminals, which are internally connected. The rightmost and leftmost screw terminals are for connection to the power supply.

The lower row consists of eighteen +24 V DC screw terminals, internally connected and intended for power supply to sensors. The leftmost and rightmost terminals are for connection to the power supply.

200-TB3T

200-TB3T is designed to connect an I/O unit and a number of two- or three-wire devices to the I/O system. This terminal base is mainly intended for 200-IT8.

200-TB3T is equipped with three screw terminal rows. The upper row has sixteen terminals for input/output signals.

The middle row consists of eighteen 0 V DC screw terminals, which are internally connected. The rightmost and leftmost screw terminals are for connection to the power supply.

The lower row consists of eighteen screw terminals. Six are intended for cold junction inputs for compensation via an external thermistor. This is a requirement when used with 200-IT8.

Eight screw terminals are intended to provide connection points to chassi ground, e.g. for wire shields.

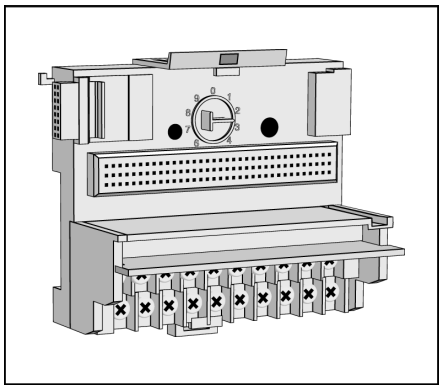
The leftmost and rightmost terminals are for connection to the power supply.

200-TBN

200-TBN is intended for the connection of an I/O unit and a number of devices to the I/O system. Screw terminals on 200-TBN are well insulated and can be used for the connection of units which allow from +24 V DC to 230 V AC connections.

This unit is primarily used for units with eight inputs or outputs.

200-TBN is equipped with two screw terminal rows. The upper row has ten screw terminals, where terminals 16 and 33 are dedicated for 0 V DC and even numbered terminals for input/output signals from a device.

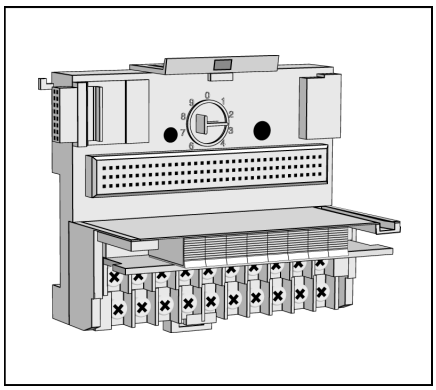


The lower row consists of ten screw terminals, where terminals 34 and 51 are for +24 V DC connection and odd numbered terminals for input/output signals from a device.

200-TBNF

200-TBNF is intended for connecting an I/O unit and a number of devices to the I/O system. Screw terminals on 200-TBNF are well insulated and can be used for connection of units which allows both +24 V DC and 230 V AC connections.

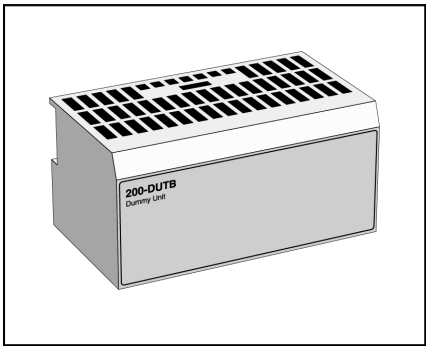
This unit is primarily for units with eight inputs or outputs.



200-TBNF is equipped with two screw terminal rows. The upper row has ten screw terminals, where terminal 16 and 33 are dedicated for 0 V DC and even numbered terminals for input/ output signals from a device. This row is equipped with holders for eight fuses connected in series to the eight channels on the top row. The unit is delivered with 3 A fuses, primarily intended for 200-OW8.

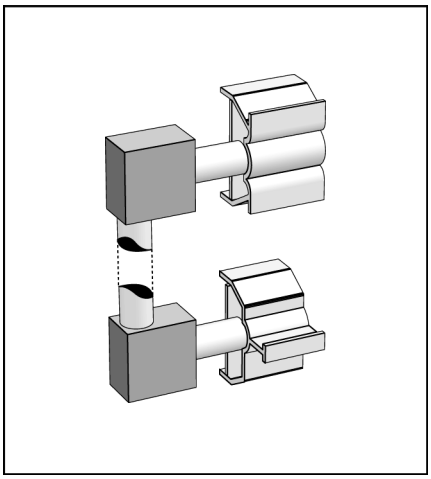
The lower row consists of ten screw terminals, where terminals 34 and 51 are for +24 V DC connection and odd numbered terminals for input/output signals from a device.

Dummy Unit
200-DUTB



200-DUTB is a dummy unit used to occupy empty locations on terminal base units of the I/O system. It protects the I/O system from external mechanical and electrical damage.

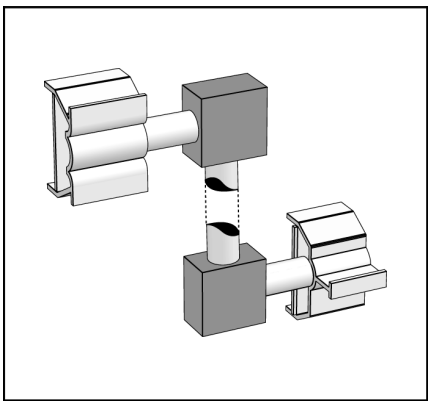
Cables
200-CBA/L260



This cable is used between the backplane and the adapter that connects the central system backplane to the closest local I/O adapter.

All mounting details are included.

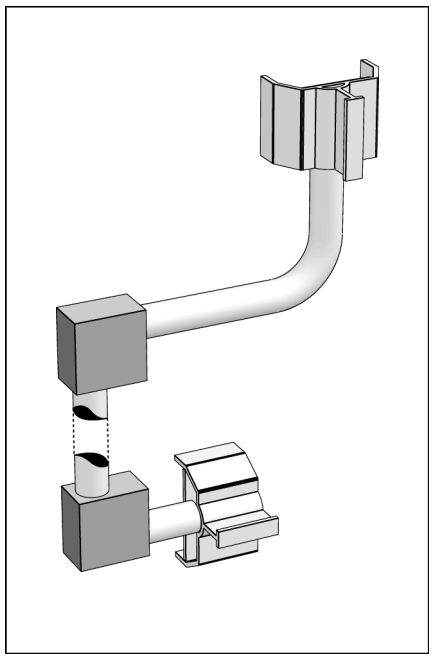
200-CBA/L260V



This cable is for vertical I/O mounting. It is used between the backplane and the adapter that connects the central system backplane to the closest local I/O adapter.

All mounting details are included.

200-CAA/L190



This cable connects one I/O adapter to another.

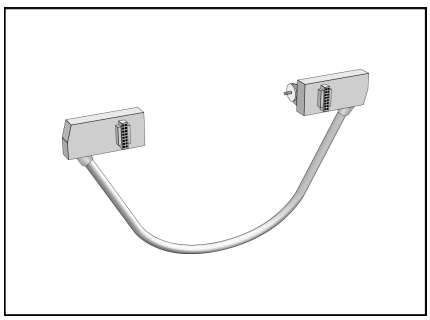
All mounting details are included.

200-CAA/L380

This cable connects one I/O adapter to another. Used if a DIN rail row is extended into two rows via a 200-CE1 cable and this row is followed by another row of I/O units.

This cable should also be used when mounting the central I/O system vertically.

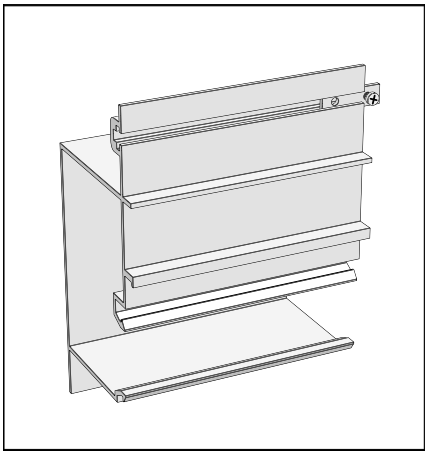
200-CE1 and 200-CE3



200-CE1 and 200-CE3 are extension cables for the I/O system. When one I/O system is split into two adjacent I/O rows, one of these cables is used to connect the two rows.

200-CE1 is approx. 30 cm (1 ft.) long and 200-CE3 approx. 91 cm (3 ft.).

Other Accessories
Mounting Profiles



These profiles with built-in cable trunk are intended for vertical or horizontal mounting of the I/O system and when using the CE1 cable.

The following mounting profiles are available: MP990, MP890, MP590 and MP500 (where 990, 890, 590 and 500 are the length in mm).

MP-CLIPS

Clips for cable duct.

Technical Data

General data

Power supply	24 V DC (19.2–30 V DC) incl. 5 % ripple according to EN 61131-2 standard i.e. +20 %, –15 % and max. 5 % ripple
Temperature	
Operating	±0 °C to +55 °C
Non-operating	–40 °C to +85 °C
Humidity	5–95 %, non-condensing
Protection rating	IP20
Approvals (when product or packaging is marked)	CE-marked and meets EMC directive 89/336/EEC according to the following standards: EN 50081-2 and EN 50082-2. Low Voltage Directive 73/23/EEC with supplement 93/68/EEC according to the following standard: EN 61131-2 (only applicable for units connected to 50–1000 V AC and/or 75–1500 V DC). UL listed according to UL 508 CSA certified; class 1 div 2 hazardous locations
Package volume	
1 unit	H 133 x W 133 x D 93 mm (1.65 dm^3)
10 units	H 278 x W 470 x D 150 mm (19.60 dm^3)

200-ANN

I/O capacity	Max. 8 terminal base units with I/O units
Status indicators	2 green LEDs for Power and Communication
Internal current consumption	120 mA
Weight	0.090 kg excl. package 0.185 kg incl. package
Dimensions	W 68 x H 88 x D 69 mm
Order code	200-ANN

200-ACN

Input voltage rating range	+24 V DC nominal, 19.2–30 V DC, including 5% ripple
I/O capacity	8 terminal base units max. with I/O units
Status indicators	Two communication status LEDs and one OK unit status LED
Communication rate	5 Mbits/s
ControlNet connector	75 Ω BNC
Power consumption	400 mA max. from external 24 V DC supply (including internal current to I/O units)
Power dissipation	7.6 W max. at 19.2 V DC
Weight	0.180 kg excl. package 0.275 kg incl. package
Dimensions	W 68 x H 88 x D 69 mm
Order code	200-ACN

200-APB

Input voltage rating range	+24 V DC nominal, 19–30 V DC
I/O capacity	8 I/O units
Status indicators	Two red/green LEDs for unit status and communication status
Communication rate	Up to 1.5 Mbits/s
Power consumption	400 mA max. from external 24 V DC supply (including internal current to I/O units)
Power dissipation	7.6 W max. at 30 V DC
Weight	0.18 kg excl. package 0.27 kg incl. package
Dimensions	W 68 x H 88 x D 69 mm
Order code	200-APB

200-PS1

Input voltage range	85–265 V AC
Nominal supply voltage	120 V AC, 47–63 Hz 230 V AC, 47–63 Hz
Inrush current	30 A for 1 AC cycle
Interruption	Output voltage will stay within specification when input drops out for 1/2 cycle at 47 Hz, 85 V AC with max. load
Nominal output	24 V DC
Output current	1 A max.
Load	100 mA min.
Output surge	Sufficient to drive 3 adapters (surge of 23 A for 2 ms each)
Overvoltage protection	Output internally limited to 35 V DC. Cycle power to reenergize
Connectors	Screw terminals
Isolation voltage	1500 V AC for 1 minute 2500 VDC for 1 second
Weight	0.207 kg excl. inner package 0.302 kg incl. inner package
Dimensions	W 68 x H 88 x D 69 mm
Order code	200-PS1

200-TB2

Number of terminals	1 row of 16, 1 row of 18, 1 row of 2
Current capacity	10 A max.
Voltage rating	132 V AC max. (rms)
Isolation voltage	Channel-to-channel isolation determined by inserted unit
Backplane key code	Determined by inserted unit
Wire size	Solid or stranded copper wire 0.5–2.5 mm^2 or AWG 20– AWG 12
Weight	0.225 kg excl. package 0.320 kg incl. package
Dimensions	H 94 x W 94 x D 58 mm (with an I/O unit inserted: D 72 mm)
Order code	200-TB2

200-TB3, 200-TB3S, 200-TB3T

Number of terminals	1 row of 16, 2 rows of 18
Current capacity	10 A max.
Voltage rating	132 V AC max. (rms)
Isolation voltage	Channel-to-channel isolation determined by inserted unit
Backplane key code	Determined by inserted unit
Wire size	Solid or stranded copper wire 0.5–2.5 mm^2 or AWG 20–AWG 12
Weight	0.225 kg excl. package 0.320 kg incl. package
Dimensions	H 94 x W 94 x D 58 mm (with an I/O unit inserted: D 72 mm)
Order codes	200-TB3 200-TB3S 200-TB3T

200-TBN

Number of terminals	2 rows of 10
Current capacity	10 A max.
Voltage rating	264 V AC max. (rms)
Isolation voltage	Channel-to-channel isolation determined by inserted unit
Backplane key code	Determined by inserted unit
Wire size	Solid or stranded copper wire 0.5–2.5 mm^2 or AWG 20–AWG 12
Weight	0.145 kg excl. package 0.240 kg incl. package
Dimensions	H 94 x W 97 x D 48 mm (with an I/O unit inserted: D 72 mm)
Order code	200-TBN

200-TBNF

Number of terminals	2 rows of 10
Current capacity	10 A max.
Voltage rating	264 V AC max. (rms)
Fuses	8 (5 x 20 mm)
Isolation voltage	Channel-to-channel isolation determined by inserted unit
Backplane key code	Determined by inserted unit
Wire size	Solid or stranded copper wire 0.5–2.5 mm^2 or AWG 20–AWG 12
Weight	0.145 kg excl. package 0.240 kg incl. package
Dimensions	H 94 x W 97 x D 48 mm (with an I/O unit inserted: D 72 mm)
Order code	200-TBNF

200-DUTB

Backplane key code	None
Weight	0.05 kg excl. package 0.12 kg incl. package
Dimensions	H 46 x W 94 x D 53 mm
Order code	200-DUTB

200-CBA/L260, 200-CBA/L260V

Weight	0.092 kg
Order code	200-CBA/L260 200-CBA/L260V

200-CAA/L190

Weight	0.086 kg
Order code	200-CAA/L190

200-CAA/L380

Weight	0.100 kg
Order code	200-CAA/L380

200-CE1

Weight	0.063 kg
Order code	200-CE1

200-CE3

Weight	0.093 kg
Order code	200-CE3

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