DATA SHEET

# TU515, TU516(-H), TU541, TU542

## Terminal unit

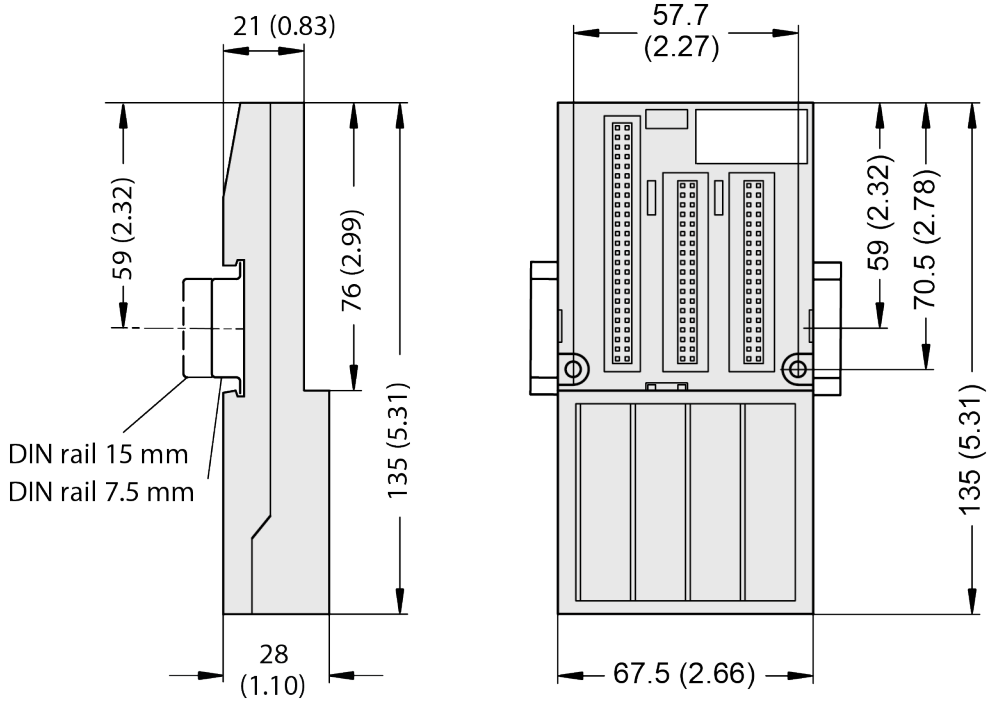


## 1 Ordering data

| Part no. | Description | Product life cycle phase *) |
|---|---|---|
| 1SAP 212 200 R0001 | TU515, I/O terminal unit, 24 VDC, screw terminals | Active |
| 1SAP 212 000 R0001 | TU516, I/O terminal unit, 24 VDC, spring terminals | Active |
| 1SAP 412 000 R0001 | TU516-XC, I/O terminal unit, 24 VDC, spring terminals, XC version | Active |
| 1SAP 215 000 R0001 | TU516-H, I/O terminal unit, hot swap, 24 VDC, spring terminals, XC version | Active |
| 1SAP 415 000 R0001 | TU516-H-XC, I/O terminal unit, hot swap, 24 VDC, spring terminals | Active |
| 1SAP 213 000 R0001 | TU541, I/O terminal unit, 24 VDC, screw terminals | Active |
| 1SAP 213 200 R0001 | TU542, I/O terminal unit, 24 VDC, spring terminals | Active |
| 1SAP 413 200 R0001 | TU542-XC, I/O terminal unit, 24 VDC, spring terminals, XC version | Active |
| 1SAP 215 200 R0001 | TU542-H, I/O terminal unit, hot swap, 24 VDC, spring terminals | Active |
| 1SAP 415 200 R0001 | TU542-H-XC, I/O terminal unit, hot swap, 24 VDC, spring terminals, XC version | Active |

*) Modules in lifecycle Classic are available from stock but not recommended for planning and commissioning of new installations.

# 2 Dimensions




*The dimensions are in mm and in brackets in inch.*

# 3 Technical data

The system data of AC500 and S500 ↳ *Chapter 4 "System data AC500" on page 3* are valid for standard version.

The system data of AC500-XC ↳ *Chapter 5 "System data AC500-XC" on page 7* are valid for the XC version.

Only additional details are therefore documented below.

The technical data are also valid for the XC version.

| Parameter | Value |
|---|---|
| Number of channels per module | Max. 32 |
| Distribution of the channels into groups | 4 groups of 8 channels each (1.0...1.7, 2.0...2.7, 3.0...3.7, 4.0...4.7), the allocation of the channels is given by the inserted I/O module |
| Rated voltage | 24 VDC |

| Parameter | Value |
|---|---|
| Max. permitted total current | 10 A, per separated process voltage terminal or for internal connection of process voltages |
| Earthing | Direct connection to the earthed DIN rail or via the screws with wall mounting |
| Screw terminals | Front terminal, conductor connection vertically with respect to the printed circuit board |
| Spring terminals | Front terminal, conductor connection vertically with respect to the printed circuit board |
| Weight | 200 g |
| Mounting position | Horizontal or vertical |

# 4 System data AC500

## 4.1 Environmental conditions

*Table 1: Process and supply voltages*

| Parameter | | Value |
|---|---|---|
| 24 VDC | | |
| | Voltage | 24 V (-15 %, +20 %) |
| | Max. ripple | 5 % from nominal value |
| | Protection against reverse polarity | Yes |
| 120 VAC | | |
| | Voltage | 120 V (-15 %, +10 %) |
| | Frequency | 50/60 Hz (-6 %, +4 %) |
| 230 VAC | | |
| | Voltage | 230 VAC (-15 %, +10 %) |
| | Frequency | 50/60 Hz (-6 %, +4 %) |
| 120 VAC...240 VAC wide range supply | | |
| | Voltage | 120 V...240 V (-15 %, +10 %) |
| | Frequency | 50/60 Hz (-6 %, +4 %) |
| Allowed interruptions of power supply, according to EN 61131-2 | | |
| | DC supply | Interruption < 10 ms, time between 2 interruptions > 1 s, PS2 |
| | AC supply | Interruption < 0.5 periods, time between 2 interruptions > 1 s |

**NOTICE!**
Exceeding the maximum power supply voltage for process or supply voltages could lead to unrecoverable damage of the system. The system could be destroyed.

**NOTICE!**

Improper voltage level or frequency range which cause damage of AC inputs:

– AC voltage above 264 V
– Frenquency below 47 Hz or above 62.4 Hz

**NOTICE!**

Improper connection leads cause overtemperature on terminals.

PLC modules may be destroyed by using wrong cable type, wire size and cable temperature classification.

| Parameter | | Value |
|---|---|---|
| Temperature | | |
| | Operating | 0 °C...+60 °C: Horizontal mounting of modules.<br>0 °C...+40 °C: Vertical mounting of modules. Output load reduced to 50 % per group. |
| | Storage | -40 °C...+70 °C |
| | Transport | -40 °C...+70 °C |
| Humidity | | Max. 95 %, without condensation |
| Air pressure | | |
| | Operating | > 800 hPa / < 2000 m |
| | Storage | > 660 hPa / < 3500 m |
| Ingress protection | | IP20 |

## 4.2 Creepage distances and clearances

The creepage distances and clearances meet the requirements of the overvoltage category II, pollution degree 2.

## 4.3 Insulation test voltages, routine test

**According to EN 61131-2**

| Parameter | Value | |
|---|---|---|
| 230 V circuits against other circuitry | 2500 V | 1.2/50 µs |
| 120 V circuits against other circuitry | 1500 V | 1.2/50 µs |
| 120 V...240 V circuits against other circuitry | 2500 V | 1.2/50 µs |
| | | |
| 24 V circuits (supply, 24 V inputs/outputs, analogue inputs/outputs), if they are electrically isolated against other circuitry | 500 V | 1.2/50 µs |