



Thin Client Unit (TCU)

Generation 2024

TCU1100-* (Intel® Atom Elkhart Lake Processor)

- Modular, lightweight design
- Low-power design with minimal heat dissipation
- VisuNet RM Shell installed
- High connectivity flexibility due to multiple interface options
- Certified for ATEX and IECEx Zone 1/21
- UL listed for USA and Canada
- IP66

Thin Client Unit



Function

The TCU1100-* Thin Client Unit is an ATEX/IECEx certified, UL listed device intended for use in potentially explosive atmospheres, such as Zones 1/21 and Class I/II, Div. 2, and Class III.

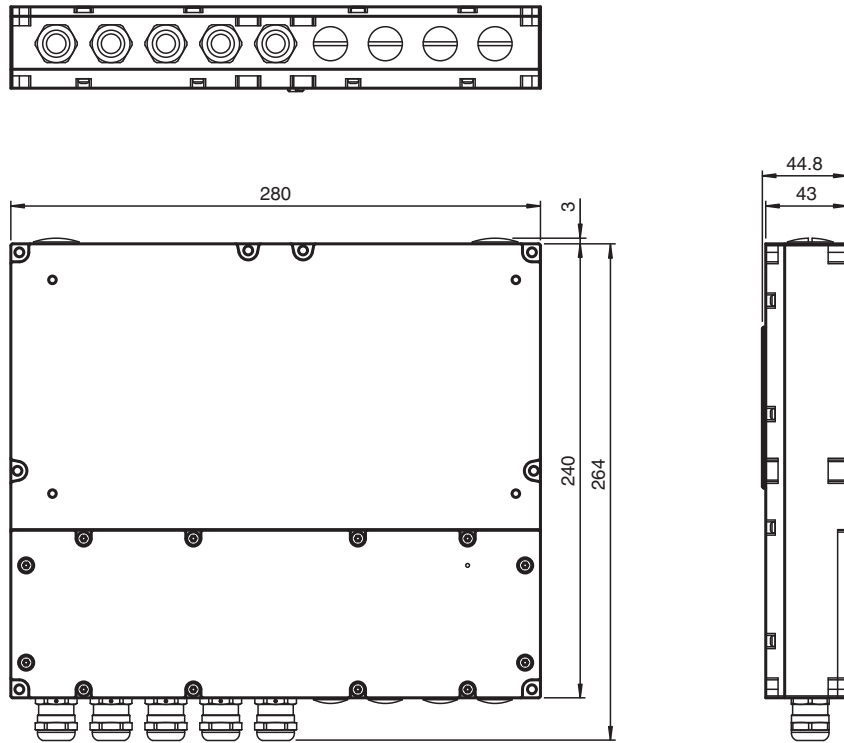
Connected to a Pepperl+Fuchs display unit device, it serves as a thin-client based computing unit that runs Pepperl+Fuchs VisuNet RM Shell firmware. The TCU1100 enables users to easily connect to a host system via Ethernet.

Multiple Ex i interfaces support the connection of intrinsically safe accessories that match with the provided entity parameters like Pepperl+Fuchs' EXTA2 keyboard and mouse system.

The USB Ex e interface can be used to connect other third-party devices that comply with the installation requirements. For extended distances, the TCU1100-* is available with an optional multi-mode or single-mode fiber optic interface.

The TCU1100-* Thin Client Unit is used in combination with the modular Pepperl+Fuchs HMI components Display unit (DPU1100-*) and Power Supply unit (PSU1100-*) of the VisuNet GXP product line.

Dimensions



Technical Data

Hardware	
Processor	Intel® Atom Elkhart Lake x6211E
RAM	4 GB
Mass storage	64 GByte industrial grade MLC SSD
Supply	
Input voltage	24 V DC ± 10 % (SELV/PELV)
Power consumption	14 W average, 30 W max.
Interface	
Interface type	<p>Standard:</p> <ul style="list-style-type: none"> 1 x Ethernet 100/1000BASE-TX (Ex e) or 1 x fiber optic 1000BASE-SX (Multimode) or 1 x fiber optic 1000BASE-LX (Singlemode), 1 x USB 2.0 (Ex e), 2 x USB 1.1 (Ex i; intended for Pepperl+Fuchs keyboard and mouse), <p>Optional:</p> <ul style="list-style-type: none"> 1 x barcode reader interface Pepperl+Fuchs Pscan-D/B (Ex i) "S3": 1 x barcode reader interface for wired 1-D scanners IDM-160-D*, IDM-Z1-160-D* and base station IDMx61-B-* and IDM-Z1-x61-B-* (Ex i) "S4": 1 x barcode reader interface for wired 2-D Scanner IDM-Z1-260-D* (Ex i) "S5": 1 x RS-232 interface with Power Supply for miscellaneous devices and peripherals (Ex i) 1 x RS-232 (Ex e) 1 x RS-485 (Ex e) 1 x Ethernet 100/1000Base-TX (Ex e) Bluetooth v4.0, communication distance up to 30 m in open terrain, transmission power +8 dBm, transmission frequency 2.402 ... 2.48 GHz
Directive conformity	
Electromagnetic compatibility	
Directive 2014/30/EU	EN 61326-1:2013 (industrial locations) ; EN 61000-6-4:2007+A1:2011

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Thin Client Unit (TCU)

Technical Data

RoHS	
Directive 2011/65/EU (RoHS)	EN 50581:2012-09
Software	
Operating system	VisuNet RM Shell 6.x (based on Microsoft Windows 10 IoT Enterprise 2021 LTSC)
Ambient conditions	
Operating temperature	-20 ... 65 °C (-4 ... 149 °F)
Storage temperature	-20 ... 65 °C (-4 ... 149 °F)
Relative humidity	93% at 40°C, non-condensating, according to EN 60068-2-78
Shock resistance	18 shocks 15 g , 11 ms all axis, IEC 60068-2-27
Vibration resistance	10 ... 150 Hz, +/- 0.075 mm , 1g, 10 cycles per axis according to EN60068-2-6
Mechanical specifications	
Degree of protection	IP66 (when mounted on the display unit from Pepperl+Fuchs)
Material	
Housing	anodized aluminum
Mass	approx. 5 kg
Dimensions	280 mm x 240 mm x 43 mm
Data for application in connection with hazardous areas	
EU-type examination certificate	BVS 16 ATEX E 083 X
Marking	Ⓢ II 2G Ex eb q [ib] IIC T4 IP66 Gb Ⓢ II 2D Ex tb [ib] IIIC T85°C IP66 Db
Directive conformity	
Directive 2014/34/EU	EN 60079-0:2012+A11:2013, EN 60079-5:2015, EN 60079-7:2015, EN 60079-11:2012, EN 60079-31:2014
International approvals	
UL approval	E492874
Approved for	Class I, Division 2, Groups A, B, C, D T4; Zone 2, Group IIC T4 Class II, Division 2, Groups F, G T4; Zone 22, Group IIIB T85 Class III; Zone 22, Group IIIA T85
IECEx approval	IECEx BVS 16.0060X
Approved for	Ex eb q [ib] IIC T4 IP66 Gb Ex tb [ib] IIIC T85°C IP66 Db
Standards	IEC 60079-0:2011, IEC 60079-5:2015, IEC 60079-7:2015, IEC 60079-11:2011, IEC 60079-31:2013

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Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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 **PEPPERL+FUCHS**

Type Code

TCU1100-* Thin Client Unit

CPU Unit	Ex Protection	Interfaces	Module A	Module B	Computing Platform	Options & Customization
CPU Unit						
TCU1100-	Thin Client Unit (Platform: Zone 1/21; GXP product group, version 0)					
Ex Protection						
J1-	IECEX & ATEX II 2 GD; Zone 1/21					
Interfaces						
ET-	1x 1000BASE-T LAN Ex e, 1x USB Ex e, 2x USB Ex i					
SX-	1x 1000BASE-SX fiber optic (Multimode), 1x USB Ex e, 2x USB Ex i					
LX-	1 x 1000BASE-LX fiber optic (Singlemode), 1 x USB Ex e, 2 x USB Ex i					
Module A						
NN-	No additional interface module					
BR-	1x TTY Ex i for Barcode Reader (PSCAN-D / EX Dragon) and Base station (PSCAN-B)					
S1-	1x RS232 Ex e					
S2-	1x RS485 Ex e					
S3-	1 x Ex i interface for wired 1-D barcode readers IDM-160-D*, IDM-Z1-160-D-* and base station IDMx61-B-* and IDM-Z1-x61-B-*					
S4-	1 x Ex i interface for 2-D barcode readers IDM-Z1-260-D-*					
S5-	1 x RS-232 Ex i interface for miscellaneous devices and peripherals					
ET-	1x 1000BASE-T LAN Ex e					
Module B						
NN-	No additional interface module					
BR-	1x TTY Ex i for Barcode Reader (PSCAN-D / EX Dragon) and Base station (PSCAN-B)					
S1-	1x RS232 Ex e					
S2-	1x RS485 Ex e					
S3-	1 x Ex i interface for wired 1-D barcode readers IDM-160-D*, IDM-Z1-160-D-* and base station IDMx61-B-* and IDM-Z1-x61-B-*					
S4-	1 x Ex i interface for 2-D barcode readers IDM-Z1-260-D-*					
S5-	1 x RS-232 Ex i interface for miscellaneous devices and peripherals					
ET-	1x 1000BASE-T LAN Ex e					
Computing Platform						
TS4-	Intel® Atom Elkhart Lake x6211E, 4 GB RAM, 64 GB SSD, RM Shell 6.x (basierend auf Win IoT LTSC 2021)					
Options & Customization						
NO	Standard (No customization)					

Example: TCU1100-J1-ET-NN-NN-TS4-N0