



## 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
- IP66

#### Thin Client Unit



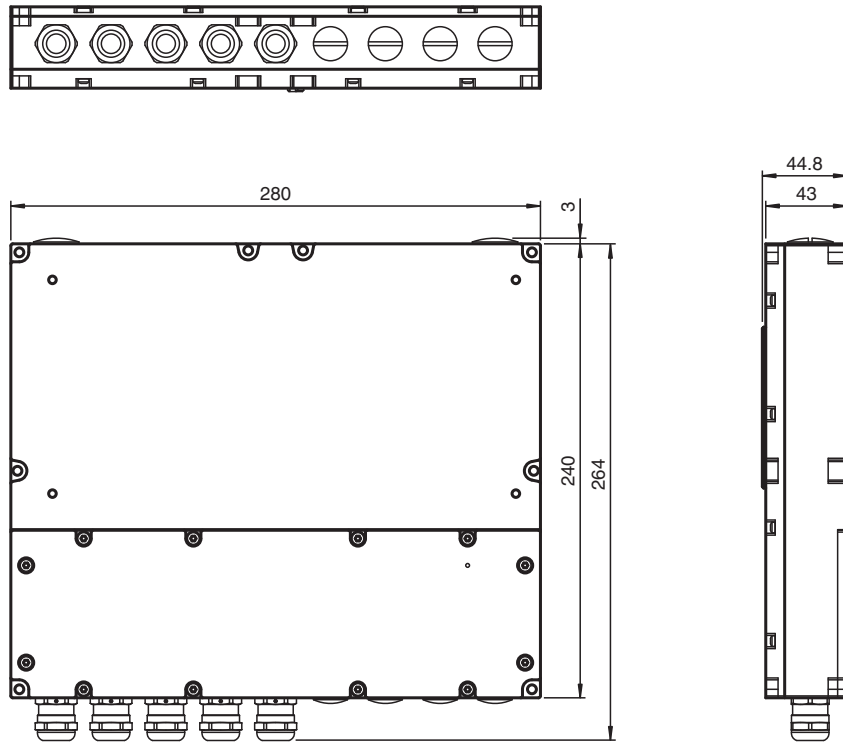
#### Function

The Thin Client Unit TCU1100-\* is an ATEX/IECEx certified device intended for use in hazardous areas (Zones 1/21). 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

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

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## Technical Data

<b>RoHS</b>	
Directive 2011/65/EU (RoHS)	EN 50581:2012-09
<b>Software</b>	
Operating system	VisuNet RM Shell 6 (based on Windows® 10 Enterprise LTSC 2021) <b>Optional:</b> TSJ-: IGEL OS 12 (based on Linux, pre-installed without licence) TSI-: IGEL OS 11 (based on Linux, pre-installed without licence) (pending)
<b>Ambient conditions</b>	
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
<b>Mechanical specifications</b>	
Degree of protection	IP66 ( when mounted on the display unit from Pepperl+Fuchs )
<b>Material</b>	
Housing	anodized aluminum
Mass	approx. 5 kg
Dimensions	280 mm x 240 mm x 43 mm
<b>Data for application in connection with hazardous areas</b>	
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
<b>Directive conformity</b>	
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
<b>International approvals</b>	
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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## Type Code

## TCU1100-\* Thin Client Unit

CPU Unit	Ex Protection	Interfaces	Module A	Module B	Computing Platform	Options & Customization
<b>CPU Unit</b>						
<b>TCU1100-</b>	Thin Client Unit (Platform: Zone 1/21; GXP product group, version 0)					
<b>Ex Protection</b>						
<b>J1-</b>	IECEX & ATEX II 2 GD; Zone 1/21					
<b>Interfaces</b>						
<b>ET-</b>	1x 1000BASE-T LAN Ex e, 1x USB Ex e, 2x USB Ex i					
<b>SX-</b>	1x 1000BASE-SX fiber optic (Multimode), 1x USB Ex e, 2x USB Ex i					
<b>LX-</b>	1 x 1000BASE-LX fiber optic (Singlemode), 1 x USB Ex e, 2 x USB Ex i					
<b>Module A</b>						
<b>NN-</b>	No additional interface module					
<b>BR-</b>	1x TTY Ex i for Barcode Reader (PSCAN-D / EX Dragon) and Base station (PSCAN-B)					
<b>S1-</b>	1x RS232 Ex e					
<b>S2-</b>	1x RS485 Ex e					
<b>S3-</b>	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-*					
<b>S4-</b>	1 x Ex i interface for 2-D barcode readers IDM-Z1-260-D-*					
<b>S5-</b>	1 x RS-232 Ex i interface for miscellaneous devices and peripherals					
<b>ET-</b>	1x 1000BASE-T LAN Ex e					
<b>Module B</b>						
<b>NN-</b>	No additional interface module					
<b>BR-</b>	1x TTY Ex i for Barcode Reader (PSCAN-D / EX Dragon) and Base station (PSCAN-B)					
<b>S1-</b>	1x RS232 Ex e					
<b>S2-</b>	1x RS485 Ex e					
<b>S3-</b>	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-*					
<b>S4-</b>	1 x Ex i interface for 2-D barcode readers IDM-Z1-260-D-*					
<b>S5-</b>	1 x RS-232 Ex i interface for miscellaneous devices and peripherals					
<b>ET-</b>	1x 1000BASE-T LAN Ex e					
<b>Computing Platform</b>						
<b>TS4-</b>	Intel® Atom Elkhart Lake x6211E, 4 GB RAM, 64 GB SSD, RM Shell 6.x (basierend auf Win IoT LTSC 2021)					
<b>TSJ-</b>	Intel® Atom Elkhart Lake x6211E, 4-GB RAM, 64-GB SSD, IGEL OS 12 (based on Linux)					
<b>TSI-</b>	Intel® Atom Elkhart Lake x6211E, 4-GB RAM, 64-GB SSD, IGEL OS 11 (based on Linux)					
<b>Options &amp; Customization</b>						
<b>NO</b>	Standard (No customization)					

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