DIMENSION4

Timing Distribution Unit

Ubisense

OVERVIEW

The Ubisense DIMENSION4™ Timing Distribution Unit (TDU) is a 2U rack-mountable device that provides timing synchronisation support for up to 21 Ubisense sensors in a Ubisense sensor network. It reduces the number of long cable runs required for a sensor installation by combining the network and timing signals needed by each sensor onto a single unshielded Cat5e cable.

SIMPLIFIED NETWORKING

The TDU has 21 ports to be connected to a Power-over-Ethernet (PoE) switch as well as 21 ports to be connected to sensors. Power and networking are passed onto these ports from the PoE switch, and the TDU injects an additional timing signal used by Ubisense sensors onto unused signal lines in the cable. One Ethernet port provides networking and power (PoE) to the Timing Distribution Unit, allowing it to be booted and managed over the network.

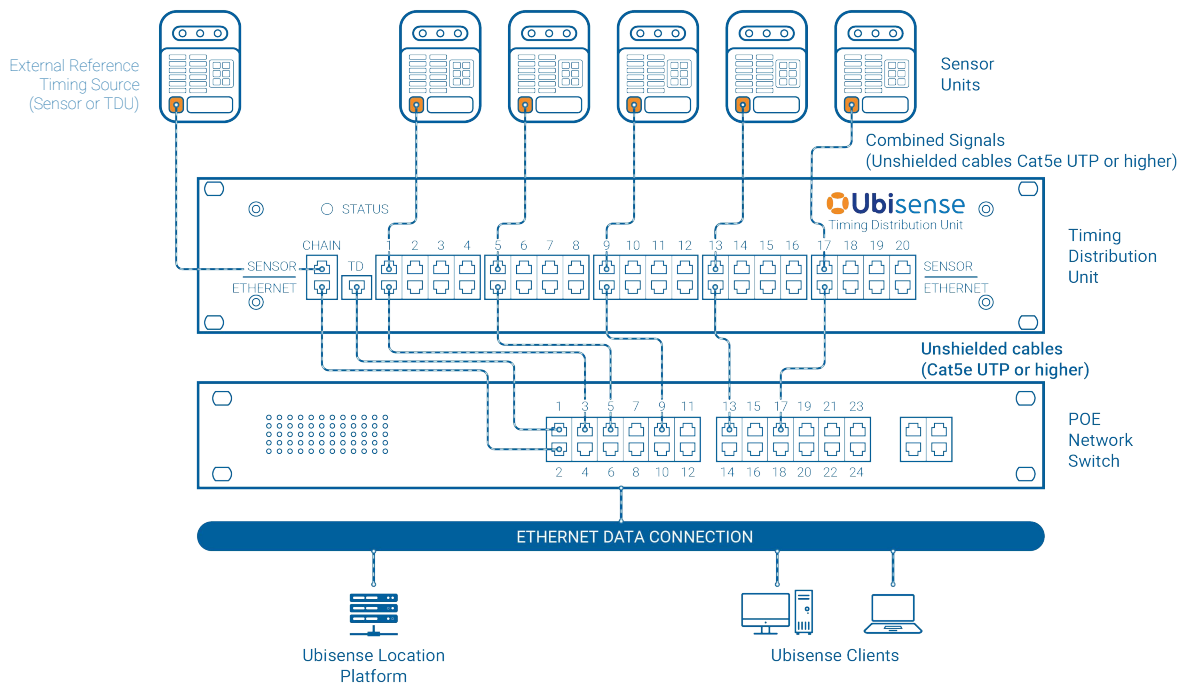| Specifications	
Dimensions:	48cm x 28.5cm x 8.7cm (18.8" x 11.5" x 3.5")
Weight:	2.7kg (6lbs.)
Temperature:	0°C to 60°C (32°F to 140°F)
Humidity:	0 to 95%, non-condensing
Enclosure:	2U 19" rack-mountable box
Power supply:	Power-over-Ethernet IEEE 802.3af-compatible
Power Usage:	Budget 15.4W
Network and timing cables:	Cat5e unshielded twisted pair (UTP) or higher
Certifications:	**US:** FCC Part 15 Class B **EU:** CE **Canada:** ICES-003
I/O ports:	21x Ethernet input ports 21x Combined timing/Ethernet ports 1x Ethernet port for unit
Ubisense part codes:	D4TIMING30

EXAMPLE CONFIGURATION

The diagram above shows how the Timing Distribution Unit (TDU) could be connected into a Ubisense sensor network.

A PoE network switch is connected to the Timing Distribution Unit in the machine room with Cat5e cables. Power and networking are forwarded to the sensors from the PoE switch via the Timing Distribution Unit.

The timing source sends its timing signal to the input sensor-side port on the Timing Distribution Unit. The TDU distributes the timing signal to the other sensors as part of the combined signal using a single Cat5e unshielded cable connection.

The reference timing may be generated by the TDU, or received from a sensor or another TDU; thus TDUs may be chained together.

SIMPLE INTEGRATION

The Timing Distribution Unit is easily integrated with the Ubisense DIMENSION4™ Location Platform software and is automatically detected when connected into a sensor network.

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