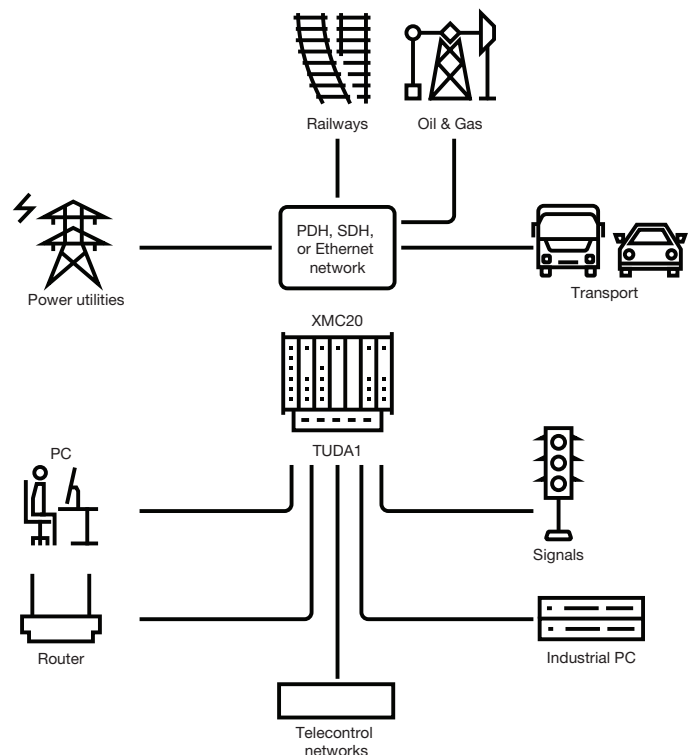


## XMC20 TUDA1

The serial interface unit brings powerful functions and high flexibility for TDM data applications on the XMC20 platform

### XMC20 TUDA1

TUDA1 provides different types of data interfaces on one unit, configurable via the network management system. With it you can connect a wide range of data terminal equipment, with different interface types and data rate requirements to only one unit in one slot. This improves subrack space utilization and optimises your investment.



- 4 independent configurable serial ports on one single unit
- Configurable as V.35, X.24/V.11, V.24/V.28, RS-485,
- Additional Ethernet interface
- Point-to-multipoint and multipoint-to-multipoint connections (centralised and distributed conferencing)
- Subnetwork Connection Protection (SNCP)
- 1+1 end-to-end path protection
- 1+1 equipment protection
- Shared protection ring
- Performance monitoring
- All functions from one network management system

#### Enhanced data service capabilities in XMC20

This unit addresses the specific needs of data services.

TUDA1 has access to XMC20's TDM bus, which provides 128 x E1 cross-connect capability. Each TUDA1 port has 2 Mbps access to the TDM bus. Low and high speed data interfaces can be configured on TUDA1.

Low speed interfaces intended for connection to controllers, valves or detectors as well as high-speed interfaces for large bandwidth applications, such as connections to routers or modems, are available. In conjunction with the 2 Mbps interface unit SELI8, TUDA1 can also be used as a data interface to E1 channel converter, allowing up to 52 converters in one single XMC20.

A comprehensive set of protection mechanisms is available in TUDA1, covering end-to-end traffic protection and section protection for point-to-point applications, plus 1+1 equipment protection for redundancy of service units.

The XMC20 platform with TUDA1 also offers a shared protection ring mechanism for protection of point-to-multipoint and multipoint-to-multipoint connections in a ring topology.

### Interface flexibility

TUDA1 provides four serial interface ports that can be individually configured via the networks management system in order to cover several types of applications. Each port can be configured as:

- V.35
- X.24/V.11
- V.24/V.28
- RS-485 (2- and 4-wire mode)

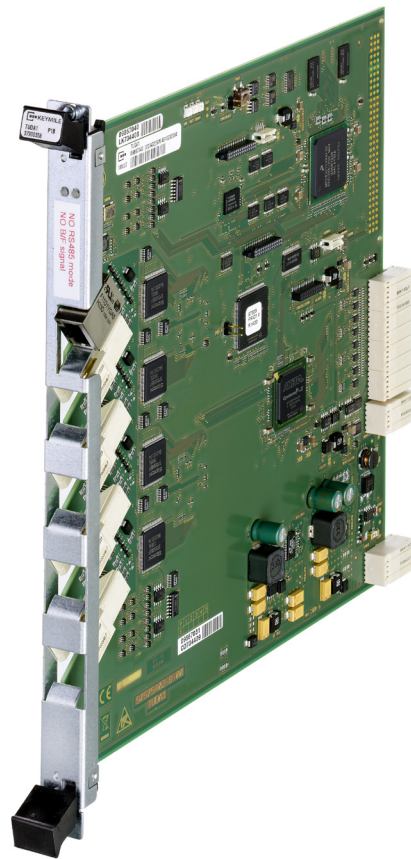
An additional Ethernet interface is also available on TUDA1. The access to the TDM bus is non-blocking, all interfaces can be used in parallel.

### Supplementary features

In addition to the different types of interfaces supported, TUDA1 offers extra features to enhance data services provisioning:

- Subnetwork Connection Protection (SNCP)
- 1+1 end-to-end path protection
- Point-to-multipoint and multipoint-to-multipoint connections (centralized and distributed conferencing)
- Shared protection ring
- 1+1 equipment protection (core functionality/conferencing)
- Performance monitoring

These attributes add even more advantages for data services deployed from a XMC20 network.



02 TUDA1

### Built-in transmission solution

TUDA1, in conjunction with XMC20, provides a complete solution for data services. With its wide range of available interfaces, the XMC20 can easily be deployed in any type of existing network infrastructure. Data services provided via TUDA1 can be multiplexed and transmitted to the network using the TDM, SDH, and Ethernet (via SATP8) transport technologies of the XMC20 platform.

## Technical Data

Ports	
5 interfaces (connector type)	4 serial (METRAL) + 1 x 10/100BaseT (RJ45)
Serial Interface Types	
Configurable multi-protocol interfaces	V.35, X.24/V.11, V.24/V.28, RS-485 (2-wire and 4-wire mode)
Data Rates Supported	
Sub-rates (X.30/V.110)	0.6 ... 38.4 kbps asynchronous and 0.6 ... 56 kbps synchronous
n x 64 kbps	64 ... 1,984 kbps (n = 1 ... 31) synchronous
Transparent	0 ... 600 kbps with oversampling
Ethernet Features	
LAN	10/100 BaseT
WAN	64 ... 1,984 kbps over TDM
Supplementary Features	
Protections	Subnetwork Connection Protection (SNCP), 1+1 end-to-end path protection, Shared protection ring, 1+1 equipment protection
Connection types	Point-to-point, point-to-multipoint, multipoint-to-multipoint, centralized conferencing
Performance monitoring	According to ITU-T G.826
Management	
ECST	For local management
UNEM	For central management
Power Supply	
Input voltage nominal (min/max)	-48/-60 V DC (-40.5 V DC ... -72 V DC)
Operation Environment	
Temperature range and humidity	According to XMC20 environmental specifications