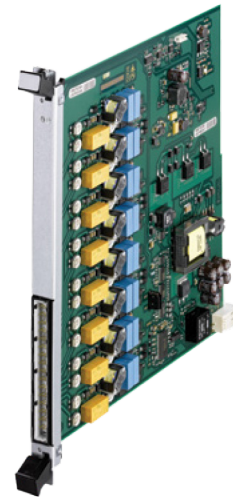


## XMC20 IMAG1

Interface for local battery telephones with magneto line signalling (in combination with TUEM1).

### XMC20 IMAG1

In some dedicated networks and networks of railway companies, legacy telephone apparatus such as the local battery telephone is the proven robust system still in use today. These telephones use the magneto line signalling technology. This has to be converted into services of modern telecom networks.



01 XMC20 IMAG1

IMAG1 delivers interfaces for these type of telephones in XMC20 for mission-critical services.

#### Features

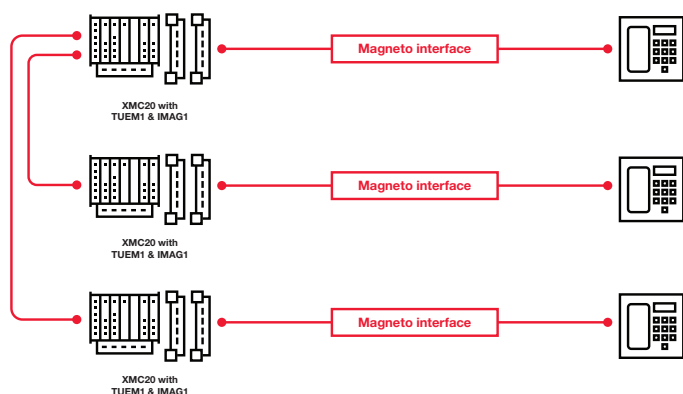
- Magneto line signalling conversion unit
- Onboard ringing generator
- Support of legacy and Ethernet services out of one node
- 8 x 2-wire subscriber lines
- For XMC25, XMC23 and XMC22 subracks
- Fanless operation possible
- All functions from one network management system

#### Overview

IMAG1 together with the E&M voice telephony card TUEM1 is the solution to transport the signals and the voice of local battery telephones with XMC20. The units are compatible to the XMC25, XMC23 and XMC22 subracks, occupying one slot for each card. The configuration-, inventory and faultmanagement is done with the management system ECST/UNEM.

#### IMAG1

IMAG1 (Interface MAGneto) is equipped with eight interfaces for conversion of the magneto line signalling into E&M signalling and vice versa.



## TUEM1

The TUEM1 converts the E&M signals to CAS signals and packetizes them into PCM signals. It digitizes analogue voice and packetizes them into PCM data streams. This allows to transport the access line (2-wire lines with magneto signalling and voice) over any type of transport network (PDH, SDH, Ethernet/IP).

The combination of IMAG1 and TUEM1 provides the complete end-to-end processing of the signals:

- Magneto interface line card IMAG1 (conversion of magneto line signalling to E&M signalling, onboard ringing generator)
- TUEM1 line card (conversion of E&M to CAS signalling, digitalization)

## Technical Data

### IMAG1

Function	Conversion of the magneto voice line signalling to E&M signalling and vice versa
Basic functions	Galvanic isolation of voice circuits, ringing signal detection and ringing generator
Bandwidth	300 ... 3,400 Hz
Impedance	600 ohms, symmetrical
Ringing generator frequency	20 Hz, 25 Hz or 50 Hz
Ringing detector frequency range	20 to 90 Hz
Number of interfaces	8

### TUEM1

Function	Interface for conversion of E&M signals to CAS signals and for digitalisation of analogue voice
Analogue voice interfaces	2-wire, 4-wire
Number of interfaces	8
Coding	A-Law according ITU-T G.711
Performance characteristics	According to ITU.T G.712
Bandwidth	300 ... 3,400 Hz
Impedance in the voice band	600 ohms balanced and floating (2-wire input/output, 4-wire input, 4-wire output)
Conferencing	Up to 10 conferences, up to 17 participants per conference with maximum of 32 participants per unit
Protections	1+1 path protection, 1+1 SNCP/I protection, 1:1 equipment protection

### Management

ECST	For local management
UNEM	For central management

### Power Supply

Input voltage nominal (min/max)	-48/-60 V DC (-39.5 V DC ... -72 V DC)
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### Operation Environment

Temperature range and humidity	According to XMC20 environmental specifications
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