BOSCH
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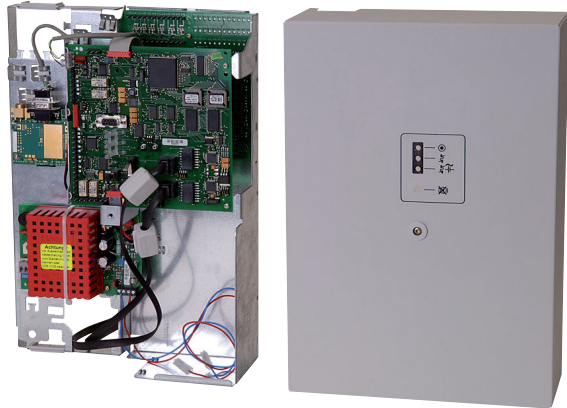# AT 2000 TSN ISDN Transmission System

- ▸ **7 parallel inputs, 4 outputs (12 in/12 out optional)**
- ▸ **Programmable with PC software (WPAT2000)**
- ▸ **Supports ISDN PTP and PMP**
- ▸ **Transmission via ISDN B and D-channel or GSM network**
- ▸ **Monitoring of layer 1 (ISDN and GSM network access)**
- ▸ **Tamper and blockade release (ISDN)**

The AT 2000 TSN ISDN auto dialer handles the transmission of alarm and fault messages via the ISDN network with backup path signaling via the GSM network.

Functions

Network access	Transmission procedure	Transmission protocol	Receiver
ISDN network (B-channel)	X.75 with 64 kBit/sec	VdS 2465	ISDN monitoring station
	Analog 10 baud	Telim	Analog monitoring station
	Data transmission to TAP/UCP server	Euromessage message, SMS plain text	Euromessage receiver, cell phone (D1/D2)
ISDN network (D-channel)	X.31 with transfer to X.25	VdS 2465	X.25-/X.31 monitoring station
GSM network	SMS service	VdS 2465	GSM monitoring station (SMS)
	SMS service	SMS plain text	Cell phone
	V.110 (data channel)	VdS 2465	GSM monitoring station (V.110) ISDN monitoring station (V.110)

Alarm or fault messages are transmitted via the ISDN network on the B or D-channel, or via the GSM module.

On failure of the primary transmission line, alarm messages can be relayed via the backup path to an appropriately equipped monitoring station.

The AT 2000 TSN ISDN permits connection to multi-device and equipment connections (PMP/PTP) and is connected in front of telecommunications equipment and using a Telekom junction box to the telephone line.

In the event of tampering or damage to the relaying ISDN line, the AT 2000 can send a message (tamper release).

The absolute operating procedure on the telephone line is enabled by the blockade release.

Monitoring of the auto dialer and the telephone network occurs through a routine call.

The AT 2000 has a tamper contact.

Audio and visual display.

Power monitoring: network, battery, undervoltage

The event storage for up to 512 events can be read out using a PC.

Certifications and Approvals

Region	Certification	
Germany	VdS	G 199813 AT 2000 TSN ISDN
Europe	CE	AT 2000 ISDN

Installation/Configuration Notes

ISDN connection
- The direct connection is to the ISDN S_0, with the ISDN-DSS1 protocol.
- Operation using the primary multiplex connection S2M is not possible.
- The AT 2000 TSN ISDN communicator for danger alarms must be connected to the S_0 bus as the first device. With this connection, it is possible for the AT 2000 TSN ISDN to send a message even in the event of tampering or damage to the bus wiring.

ISDN PTP
- The "constant monitoring" layer 1 feature is present by default for system access.
- The max. cable length from network termination NT via the UAE 8/8 box to the TK system or to the end unit is 1000 m.

ISDN PMP
- The "constant monitoring" layer 1 feature is also required with a multi-system connection.
- The max. cable length between network termination and TK system or end unit is 150 m.

GSM transmission
- The GSM network can also be used alone for a message transmission (without ISDN).
- For application according to VdS, only backup path transmission from D1 to D1 or D2 to D2 is permissible.

Antenna planning
- The antenna selection depends on the measured field strength. The antenna and the cable must be selected so that the measured attenuation on the AT 2000 does not exceed -87 dB.
- If the antenna is placed near an automatic fire or intrusion detector, the distance of the antenna to the detector must be at least 1 m.
- We generally recommend the use of a radiator (rod antenna for exterior and interior areas). If the reception level implemented with a radiator is insufficient, beam antennas (planar or exterior antennas for exterior and interior areas) should be used.
- With the installation of antennas outdoors, the relevant DIN VDE provisions, especially DIN VDE 0845 part 1 and VdS 2311 appendix F (protection against lightning) must be adhered to! The ground connection isolator and the lightning protection set (optional) are designed for this.
- Make measurements precisely where the antenna will be mounted. The measurement results must remain stable for a period of 10 minutes.

Antenna	Gain	Cable attenuation	Comments
Magnet foot antenna	0 dBi (Entire system)		2.6 m fixed cable with FME connector, female
Rod antenna	3.5 dBi (Value without cable)	0.3 dB/m	With 20 m fixed cable, with FME connector, female
Planar antenna	8 dBi	According to cable type	Type of connection N-connector
Exterior antenna	10 dBi	According to cable type	Connection type: 7/16 connector

Antenna cable

Cable type	Cable attenuation	Cable Ø	Comments
Standard cable	0.3 dB/m	Approx. 5 mm	Low loss cable
Aircom Plus	0.15 dB/m	10.8 mm	SOHA

- If necessary, the pre-configured cables must be shortened in order to avoid unnecessary attenuation.
- The Aircom Plus cable must be used if the low-attenuation standard cable achieves no level better than -87 dBm.
- Applications must strictly adhere to the bending radius of at least 55 mm.

Product ID

4.998.066.838	Aircom Plus cable (SOHA)
4.998.066.839	Expansion module connector for the Aircom Plus cable (SOHA)

Fire detection technology
- Interface according to VDE 0833 part 2 can be provided optionally.

Parts Included

Type	Qty.	Component
AT 2000 TSN ISDN	1	AT 2000 installation module with housing, power supply unit and GSM module

Technical Specifications

Housing version

Current consumption	
• Standby current	Approx. 125 mA
• ISDN transmission	Approx. 127 mA
• GSM transmission	Approx. 255 mA
• Additional current per activated relay	Approx. 12 mA
Terminal resistance of the primary line	10 kilohm ± 1%

Housing version

Activation time	> 200 ms
Load on switch contacts	
• Max. output	30 W/60 VA (Ohm resistive load)
• Max. voltage	50 V
ambient temperature	-0 ℃ to +50 ℃
Environmental class	II
Protection category	IP 40
Housing	
• Dimensions (H x W x D)	366 x 258 x 103 mm
• Color	Light gray
• Weight without/with battery	4.0/8.0 kg
Power supply	
• Protection class	I
• Mains voltage	230 V (-15% to ±10%)
• Mains frequency	50 Hz (±10%)
• Mains current consumption	200 mA
• Battery (order separately)	12 V/1 x 10 Ah
• Backup time	Max. 72 hrs.

Radio module

GSM network	900/1800 MHz

Ordering Information

AT 2000 TSN ISDN Transmission System With housing, power supply unit, AT 2000 ISDN installation module and GSM module, for transmission of alarm and fault messages via the ISDN network and backup path signaling via the GSM network	ITS-AT2000TSN

Accessories

Extension fire AT 2000 For provision of the interface between AT 2000 and smoke detector control panel in accordance with VDE 0833 Part 2	3902130697
Extension 12 in AT 2000 For extending the AT 2000 with 12 additional inputs (input lines)	ITS-AT12IN
12 in/out AT 2000 extension For extending the AT 2000 with 12 additional inputs (input lines) and 12 outputs (relay contacts)	ITS-AT12IO
UAE 8/8 junction box, surface mounted Necessary if transmission devices need to be connected in front of existing end units	2799181572
Magnetic foot antenna with 2.6 m cable With FME connector, female, and coaxial cable pre-configured	4998131134
Rod antenna with 20 m cable With FME connector, female, incl. mounting bracket for exterior and interior areas	4998131136

Ordering Information

Planar antenna With N-connector for exterior and interior areas, the connection cable can be ordered separately.	4998131137
Exterior antenna With 7/16 connector, the connection cable can be ordered separately	4998059755
Antenna cable 20 m, pre-configured for planar antenna with N-plug and FME connector, female	4998131383
Antenna cable 20 m, pre-configured for exterior antenna with 7/16 plug and FME connector, female	4998131688
Antenna cable 100 m, (low loss) LE = per roll 100 m, low-loss antenna cable	4998101363
FME connector, male For antenna cable	4998097868
FME connector, female For antenna cable	4998097867
N-connector, male For antenna cable	4998131687
7/16 connector, male For antenna cable	4998097869
Lightning protection set For the AT with connection to an exterior antenna, lightning/voltage surge conductor for coaxial antenna systems of mobile radio systems (e.g. GSM or UMTS)	4998151211
TeleService kit With cable set for analog modem or AT 2000 ISDN/TSN.	4998083523