Transmission technology

TAS-LINK III – Short instruction

General advice

Security advice
To create a safe work environment it is necessary to stick to all the given security advice and instructions at any time. Furthermore, all existing local accident prevention regulations and safety regulations for the application area of the device have to be satisfied.
All the material used may only be applied in a proper way according to their purpose.

Servicing
Servicing has to take place according to the guideline VDE 0833. For details see the chapter servicing.

Disposal
The device is subject to the WEEE guideline (EU 2002/69/EG). You are legally bound to send the device after completing its durability separate from the household waste to the disposal of your local municipality.

ESD advice
Attention, there are charge endangered components on the assembly group! Installation workings at the device are only to be executed with switched off operating voltage. Before and during the installation workings it has to be secured that the working person is earthed to avoid possible damages at the device.

Used symbols

The information sign shows useful information and gives away advice and recommendations.

Attention"!

The attention sign hints at <u>very important</u> information and instructions which can lead to very high costs, material or even personal damage in case of contravention.

<u>ATTENTION!</u>

Please refer to the <u>handbook</u> for further information! You will find this on the supplied CD, in the configuration tool "SysConf" among "help"→"handbook" or as a download file among www.taslink.de.

Table of contents

1   Overview alarm transmission device TAS-Link III

1.1   Introduction

Thank you for choosing the alarm transmission device TAS-Link III. The TAS-Link III is based on the assembly group TLW 1+. Thanks to its intelligent modular setup the TAS-Link III transmission device (TD) can be put to-gether/modified for every purpose of application individually.

By applying numerous path modules the transmission paths can be enhanced with the GPRS, UMTS, GSM, PSTN or ISDN path if necessary. Additionally, an own DSL modem with emergency power supply is available for the IP path.

On top of that, 3 extension modules are available which are able to expand the functionality arbitrarily. Here it can be selected between a fire alarm module (XBT 1), for the activation of TF/MDL main fire detectors or directly to the fire alarm centre, a line extension module (XKT 1), for the activation of 8 additional inputs and 2 outputs, and a relay module (XRT 1). All in all it is possible to apply up to 15 extension modules per TD in arbitrary combinations.

1.2   Transmission paths/modules/modes/protocols

Currently, the TAS-Link III supports the transmission paths, transmission modes and protocols displayed in the table below:

Trns.-Path	ARC	Voice	SMS	E-Mail	ARC Transmission Protocols	Path module
IP	✓	✘	✘	✓[1]	VdS 2465-S2 (un-/encrypted) VdS SecurIP	TLW 1+
GSM	✓[2]	✓	✓	✘	VdS2465	TEG 1/2
GPRS	✓	✘	✘	✓[1]	VdS 2465-S2 (un-/encrypted) VdS SecurIP	TEG 1/2 or TEU 1
UMTS	✓	✘	✘	✓[1]	VdS 2465-S2 (un-/encrypted) VdS SecurIP	HC25 / PH8-P / PLS8-E / TEU1
PSTN	✓[3]	✓	✓[4]	✘	VdS 2465, Telim	TEA 1
ISDN	✓[3]	✓	✓[4]	✘	VdS 2465, Telim	TEI 1

1.3   Extension modules

1.3.1   00-25-9700000 fire alarm module - XBT 1

- Direct activation of a main fire detector (diode (MDL) or frequency detector (TF))
- Direct activation to a fire alarm centre via a/b (independent from the manufacturer)
- Monitoring contact (different functions are supported)
- Malfunction contact
- 2x remote switching relays

1.3.2   00-25-9000000 line extension module - XKT 1

- 8 inputs
- 2 outputs

1.3.3   00-25-9800000 relay module - XRT 1

- 8 outputs

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[1] Currently only unencrypted mail transfer possible
[2] CSD service for GSM network required.
[3] Does not work with NGN-connections.
[4] SMS Server required (recommended: "AnnyWay" www.sms-im-festnetz.de).

1.4 Path modules

Path module	Path of transmission	Art. no.
TEG 1 w/o antenna	GSM/GPRS	00-25-0100000
TEG 2 w/o antenna	GSM/GPRS	00-27-0100000
TEU 1 w/o antenna	GPRS/UMTS	00-25-0060000
TEA 1	PSTN (analogue)	00-25-0030000
TEI 1	ISDN	00-25-0010000

1.5 Housing

The alarm transmission device TAS-Link III can be used, as you already got to know in section 1.1, very flexibly due to its modular setup. So the requirements concerning housings, power supply units and batteries are correspondingly diverse.

1.5.1 System housing

All hardware components are located in system housings. Depending on the equipment a smaller or a bigger housing is necessary. Standard housings are the G4 and the G4+ housings. As standard, the basic assembly group TLW1+ incl. path and extension modules as well as the power supply unit and the battery are located in the housing (except G2).

G2   G4   G4+   G6   G8

TAS art. no.	Housing	LEDs	Measurements (w x h x d)	Weight	RAL
00-12-5005000	G2	-	145 x 240 x 100mm	1,1kg	9016
00-16-0001100	G4	1	310 x 275 x 115mm	4kg	9016
00-16-000A400	G4+	4	310 x 275 x 135mm	5kg	9016
On request	G6	4	480 x 460 x 110mm	8kg	9016
On request	G8	4	500 x 610 x 208mm	15kg	9016

TAS art. no.	Accessory system housing G4	G4	G4+	G6	G8
00-12-5999001	Area conservation for system housing G4	✔	✘	✘	✘
00-12-5999901	Tear-off detector for system housing G4	✔	✘	✘	✘

1.5.2 Bottom-mounted housing

If an external DSL router should be used, it has to be built over in accordance with the standards. To do so, the system housings g4 and G4+ can be expanded with a bottom-mounted housing.

TAS art. no.	Housing	Measurements (w x h x d)	Weight	RAL
00-12-5993730	Bottom-mounted housing G4	310 x 275 x 115mm	4kg	9016

1.6 Power supply units

Depending on the housing and the case of application different power supply units are used.

TAS art. no.	Power supply unit	Amount batteries	Battery capacity	Max. output current	in accordance with standard	G4	G4+	G6	G8
17-50N1400005	C-Tec NT 560-12/E	1	≤12Ah	2A	EN 54-4, EN 50131-1	✔	✔	✔	✘
17-50N1400004	Telenot NT 7500	1	≤12Ah	0,65A	VdS class C	✔	✔	✔	✘
43-01-1001019	ABI 15011	2	≤2x 24Ah	2A	EN 50131-1	✘	✘	✘	✔

1.7 Batteries

Depending on the housing and the case of application different batteries are used.

TAS art. no.	Capacity	Measurements (w x d x h)	Weight	G4	G4+	G6	G8
17-62-3122650	7,2Ah	65 x 93 x 150mm	2,2kg	✔	✔	✔	✔
17-62-3123120	12Ah	97 x 93 x 150mm	4kg	✘	✔	✘	✔
17-62-3123162	18Ah	75 x 165 x 180mm	6,4kg	✘	✘	✔	✔

2 Scope of delivery

2.1 TAS-Link III in the housing

As already described in the previous chapter the system of the TD TAS-Link III consists of diverse components which can be delivered in the widest variety of combinations.

Therefore, the standard configuration is to be described here, namely TLW1+ as well as TEG 1 (e.g. for IP/GPRS) in the system housing G4+ with 4 LEDs in the housing cover as well as C-Tec NT 560-12/E power supply unit and 7,2Ah battery.
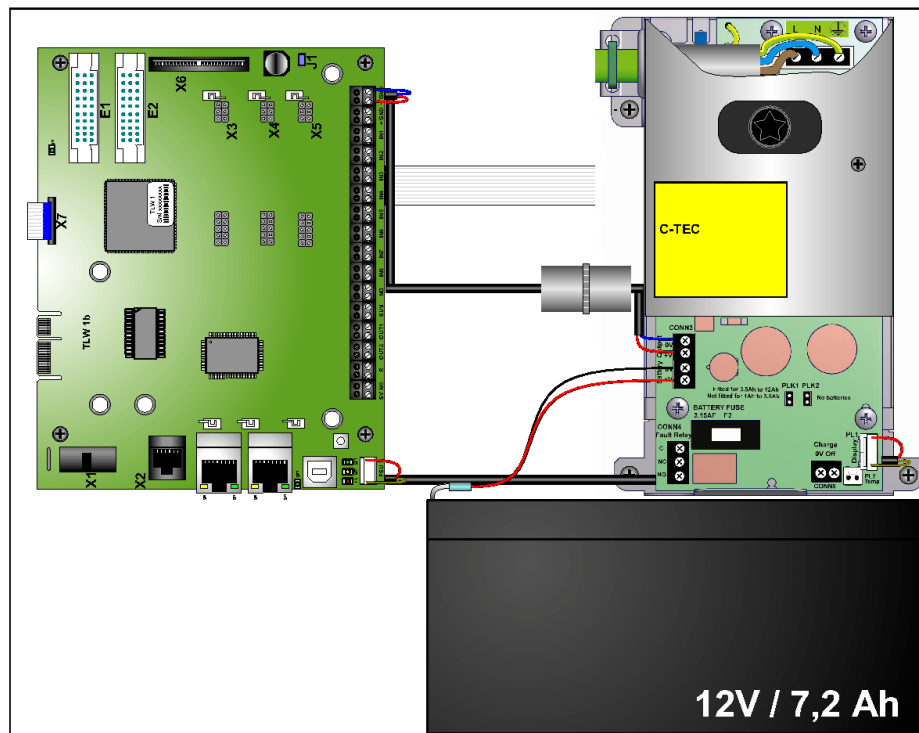
2.2 Accessory

Attention!
Please note that the scope of delivery of the accessory can be different depending on the type of the TAS-Link! This short instruction only describes the standard scope of delivery.

The following belongs to the standard accessory:

- 1x TAS-Link III short instruction 99-28-9990100 (you will find the complete handbook on CD)
- 1x drilling template 08-50-6005015
- 1x CD (software can be downloaded as well via www.taslink.de)
- 1x standard accessories kit 00-12-5004006 (see the description of its content below!)
- 2x patch cable 3m (blue for IP / yellow for ISDN)
- 1x battery (optional)

## 2.2.1 Content of the standard accessories kit 00-12-5004006

| Content	Description
8x 10kΩ resistor 5% / ¼ W	Terminating resistors 10kΩ for the lines
3x dowel S 8x40	Dowels for the fixing screws
2x screw 5x60	Fixing screws for the housing (bottom)
1x screw 5x50	Fixing screw for the housing (top)
6x cable tie 150mm	Strain relief for the supply cables
1x type plate	Type designation, serial no. etc.
1x sticker MAC address	Sticker showing the MAC address of the device
1x cable clamp 10mm	Cable clamp for 230V supply cable
1x jumper	Jumper for C-Tec NT560-12/E (is not required)
1x distance bolt M3x45mm	Mounting for the battery
2x cable clamp 5mm	Cable clamps for the earthing of the insulating shell/earthing wire of supply cables at the housing
2x ratchet screw M3x6	Fixing screws for the cable clamps
1x adhesive seal 11mm	Seal for the housing
1x lock washer 4,3mm inside	Lock washer for M4x8 screw
1x ferrite	Ferrite for 230V supply cable (only required at C-Tec)
1x oval-head screw M4x8	Screw for the cable clamp 10mm
1x drilling template G4	Drilling template for the G4/+ housing

3 Assembly

3.1 Housing

For a safe assembly, fix the respective housing at the intended positions with the help of the supplied screw and dowels. Use the supplied drilling template (08-50-6005015), to place the drills comfortably and correctly. **Please install the housing only in the specified direction!**
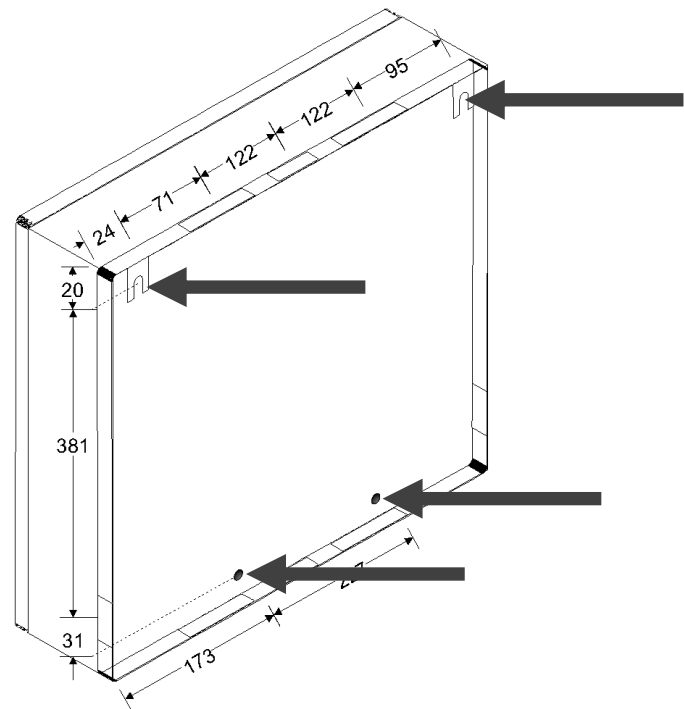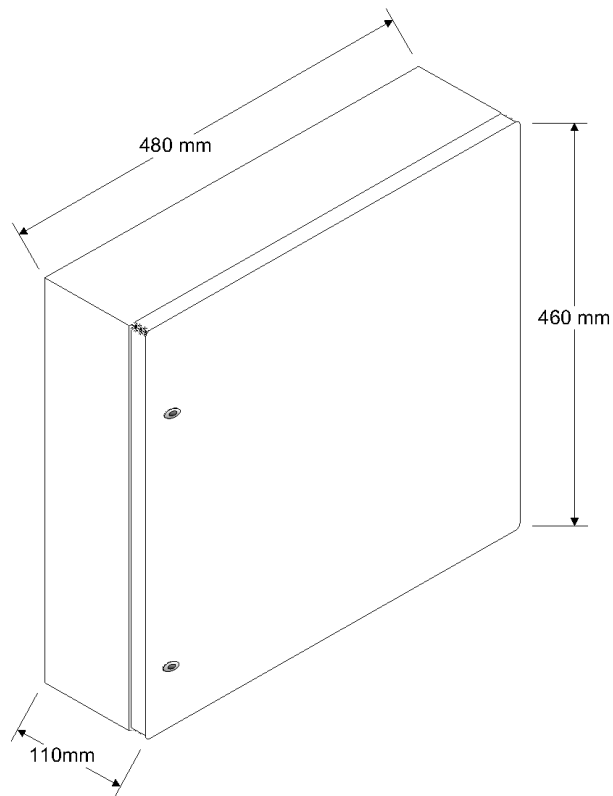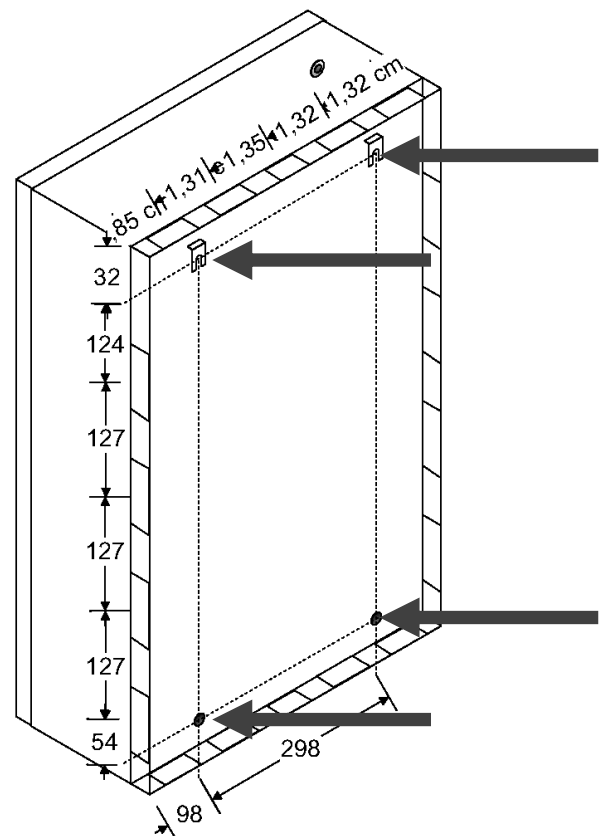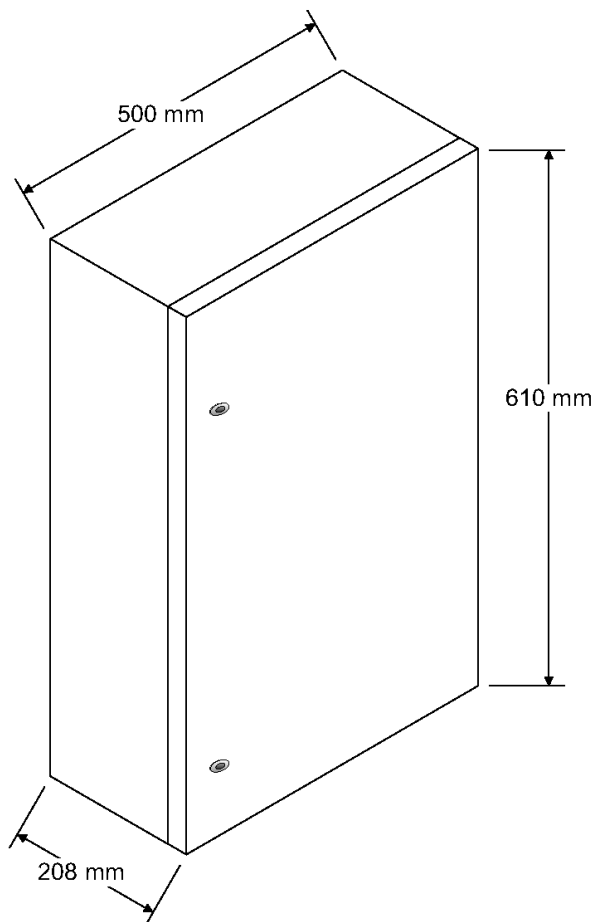
3.1.1 G2
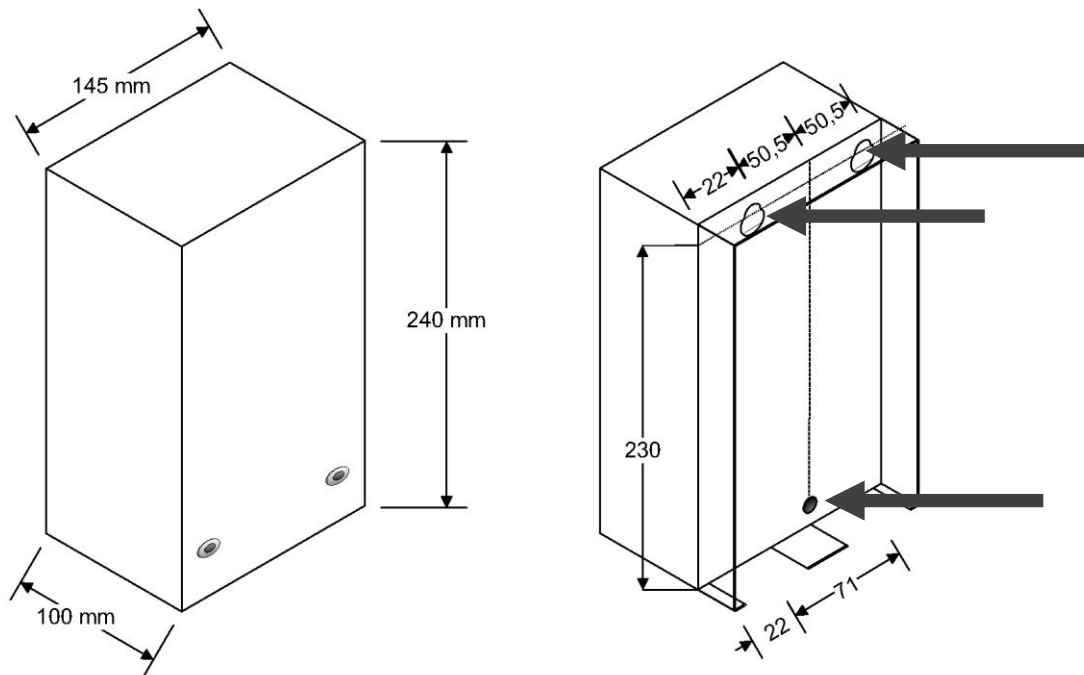
3.1.2 G4/G4+
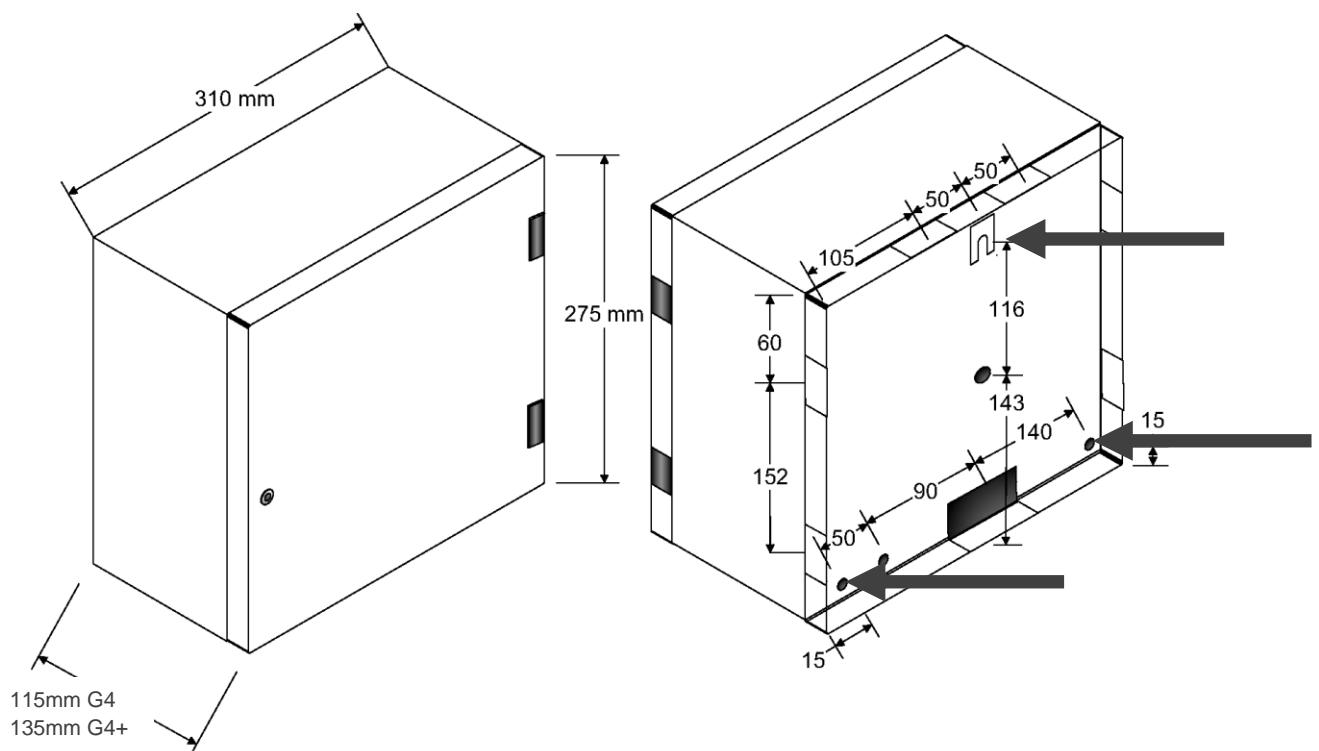
3.1.3   G6

3.1.4   G8

3.2 Mains connection

3.2.1 General important advice

Please read the following <u>important</u> advice carefully <u>before</u> starting with the assembly works:

- The mains connection must only be made by electrically certified and trained personnel!
- All assembly works have to be executed <u>without</u> operating and battery <u>voltage</u>!
- Discharge yourself before the beginning of the assembly works by touching earthed metal parts to avoid damages at semiconductor devices by electrostatic discharge (ESD)!
- All power supply units may only be connected with a <u>protective conductor connection</u> (PE)!
- The mains cable has to be secured at the terminal clamps by a <u>strain relief</u>!
- All in the system housing incoming <u>reporting cables</u> have to be <u>earthed</u> via the housing!
- Disconnect device : a disconnect device including a 5A protection should be installed in the electrical cabinet in order to disconnect the equipment from the mains supply (e.g. for maintenance purpose…). Please note that this disconnect device should have a contact separation of at least 3mm, and provide with differntiel protection of 30mA.

3.2.2 Power supply unit C-Tec NT 560-12/E

Installation cable

For a correct installation of the 230 V AC mains cable the sheated cable types **NYM-J 3x1,5 or 2,5** have to be used.

Cable description	Wires	Cross section in mm² Cu	Hedge in A
NYM-J	3	1,5	10
NYM-J	3	2,5	16

Please pay attention that the stripped ends are placed correctly and safely in the designated terminal block! Therefore, strip the ends ca. <u>8mm</u>.

Device fuses

Fuse	Trigger characteristic	Nominal current in A	Breaking capacity	Nominal voltage in V
Mains 230V	T	1	H	250
Battery 12V	F	3,15	H	250

3.3   Attachment of path, DSL and extension modules

3.3.1   Path modules

3.3.1.1   Table of compatibility

Compatible to	TEA 1 PSTN	TEI 1 ISDN	TEG 1/2 GSM	TEU 1 UMTS
E1	✔	✔	✘	✔
E2	✘	✘	✔	✔

The two white 30-pole slots on the TLW1+ are called E1 and E2.

Plugging of the TEA/TEI on TWL (E1)
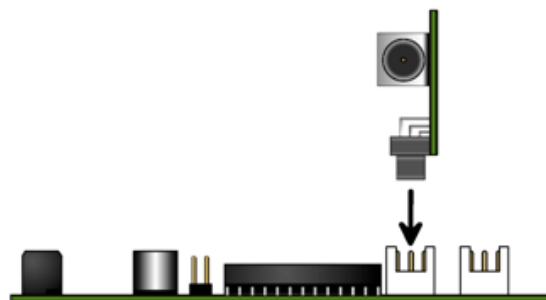
Plugging of the TEG 1/2 on TLW (E2)

Plugging of the TEU on TWL (E1)

Plugging of the TEU on TLW (E2)

Please do never plug/pul and/or address path modules and/or other plug-in cards, if voltage is apllied!

3.3.2 DSL module

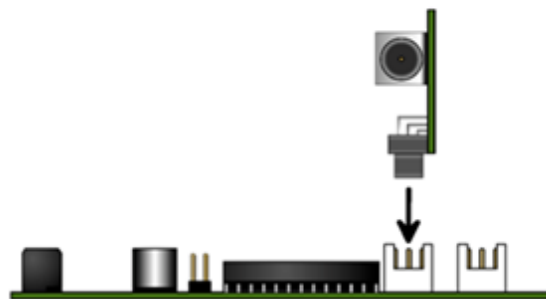The DSL module, consisting of DSL1 as well as XDS2, is attached to the backside of the TLW1+ by 3x M3x5 screws incl. lock washers as well as 3x M3x5 distance bolts incl. lock washers. Afterwards, the voltage from the TLW1+ to the XDS2 as well as the interface X1 to XDS2 and the LAN port 0 to DSL1 have to be wired.

Ethernet   X1 to XDS2   Voltage
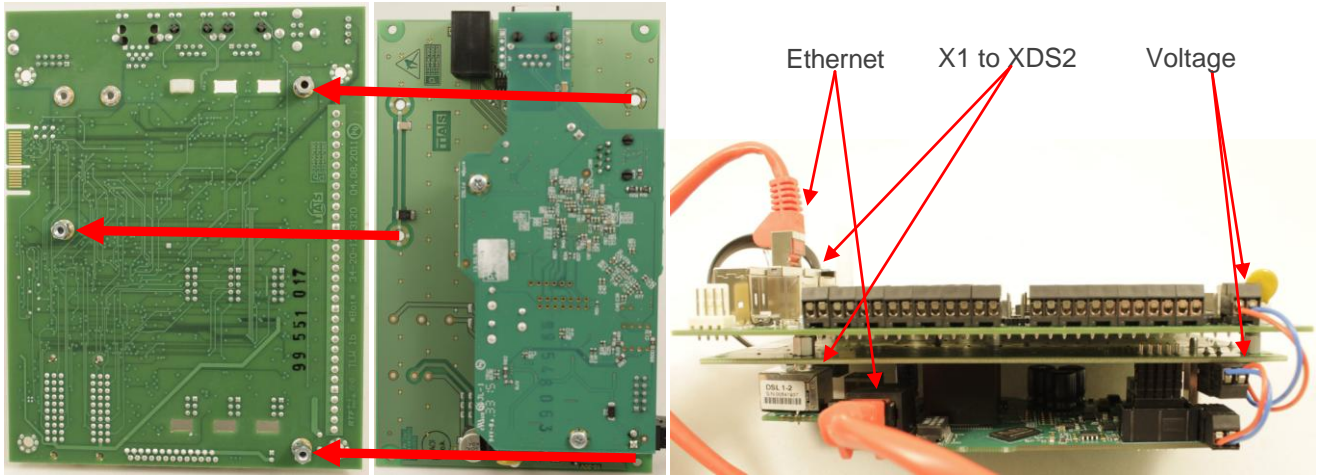
3.3.3 Extension modules

3.3.3.1 Attachment of XKT 1, XRT 1 and XBT 1 on the TLW 1+

Please do never plug/pull and/or address path modules and/or other plug-in-cards, if voltage is applied!

4 Hardware

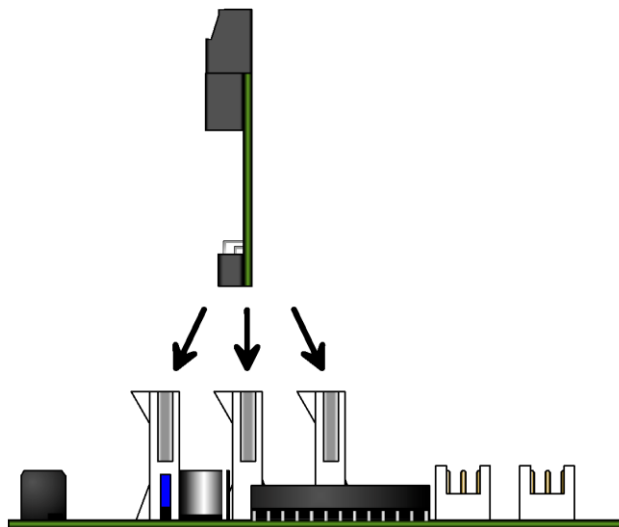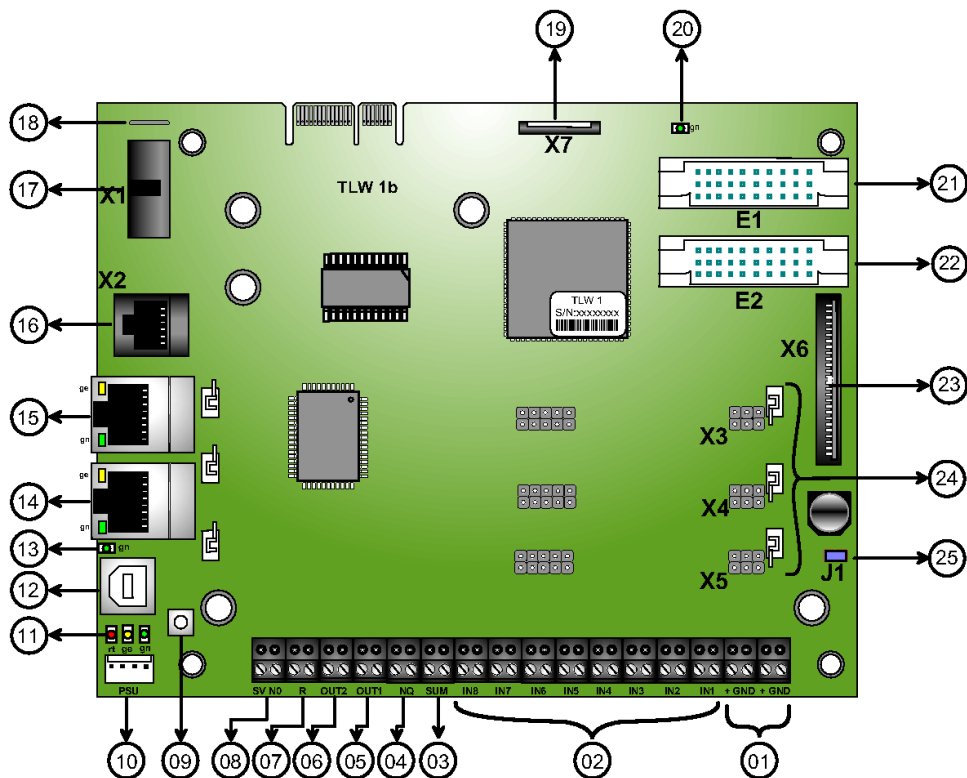## 4.1 Overview basic assembly group TLW 1+

Number	Designation	Function
01	+	Power supply 10-30V (at 12V: 80mA for TLW 1 / 45mA for TLW 1-1)
01	GND	0V
02	IN1-8	Inputs/lines
03	SUM	Sum fault port – break contact (max. 30V/100mA)
04	NQ	Negative acknowledgement – break contact (max. 30V/100mA)
05	OUT1	Switching output 1 – normally open contact (max. 30V/100mA)
06	OUT2	Switching output 2 – normally open contact (max. 30V/100mA)
07	R	Without function
08	SV NO	Voltage monitoring for NT 7500, ABI/Esser & NT560-12/E
09	-	Reset button
10	PSU	Voltage monitoring only for NT560-12/E
11	-	Status LEDs for transmission device (see status LEDs)
12	-	Service bushing for parameterisation (USB 2.0)
13	-	Status LED for service bushing
14	-	LAN bushing 1
15	-	LAN bushing 0
16	X2	V.24 interface (in conjunction with XVT3) for AS components/ remote access interface
17	X1	V.24 interface for external extension cards/AS/remote access interface
18	-	Earthing bracket
19	X7	Ribbon cable connector for the external LED module (TTA/LMT)
20	-	Status LED for the path modules (UMTS)
21	E1	Slot for the path modules TEI 1 (ISDN), TEA 1 (PSTN) or TEU (GPRS/UMTS)
22	E2	Slot for the path modules TEG 1 (GSM/GPRS) or TEU (GPRS/UMTS)
23	X6	I²C interface for the ABI AS
24	X3-X5	UART interface for extension modules (XKT/XBT/XRT)
25	J1	Voltage supply via I²C (set) or external (not set)

4.2 Measurements

4.2.1 TLW 1+
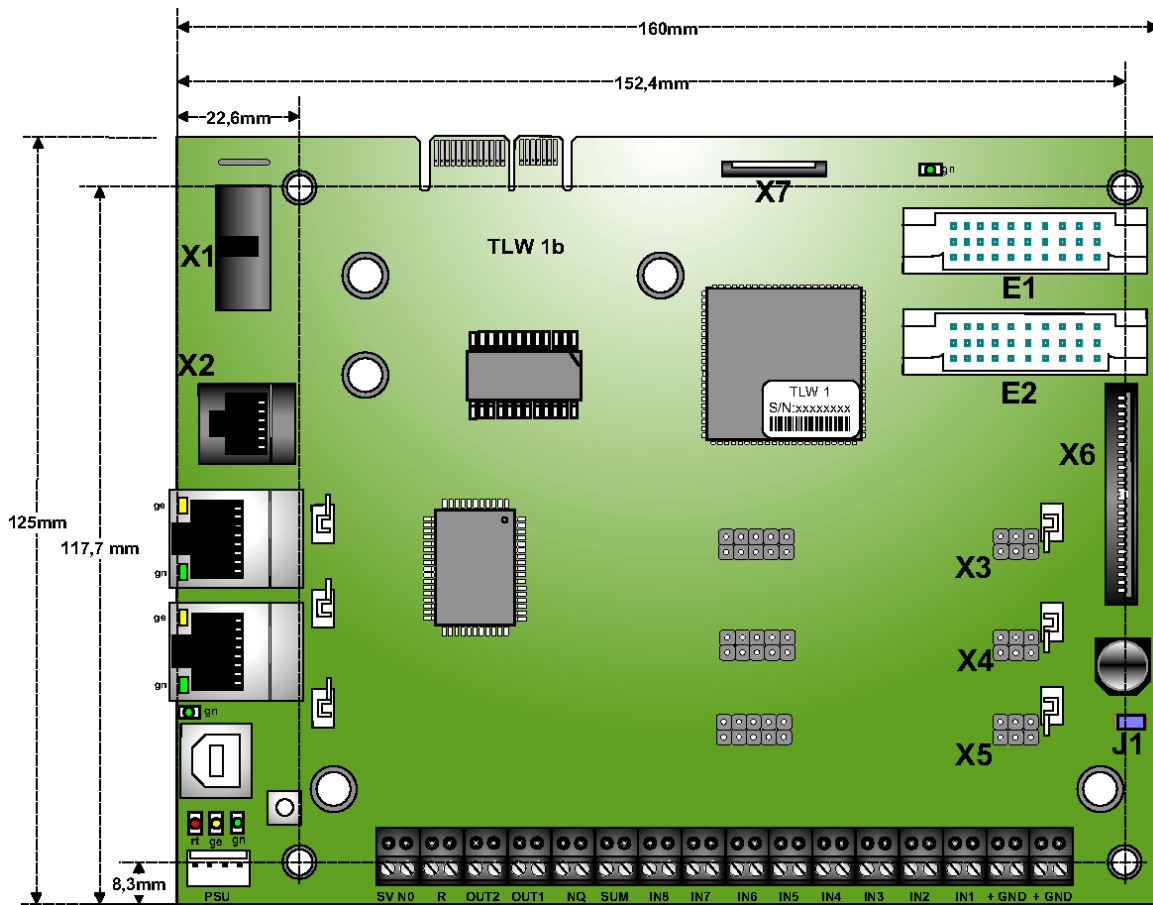
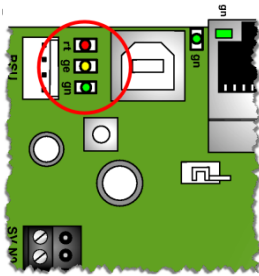### 4.2.2 Path modules and extension cards
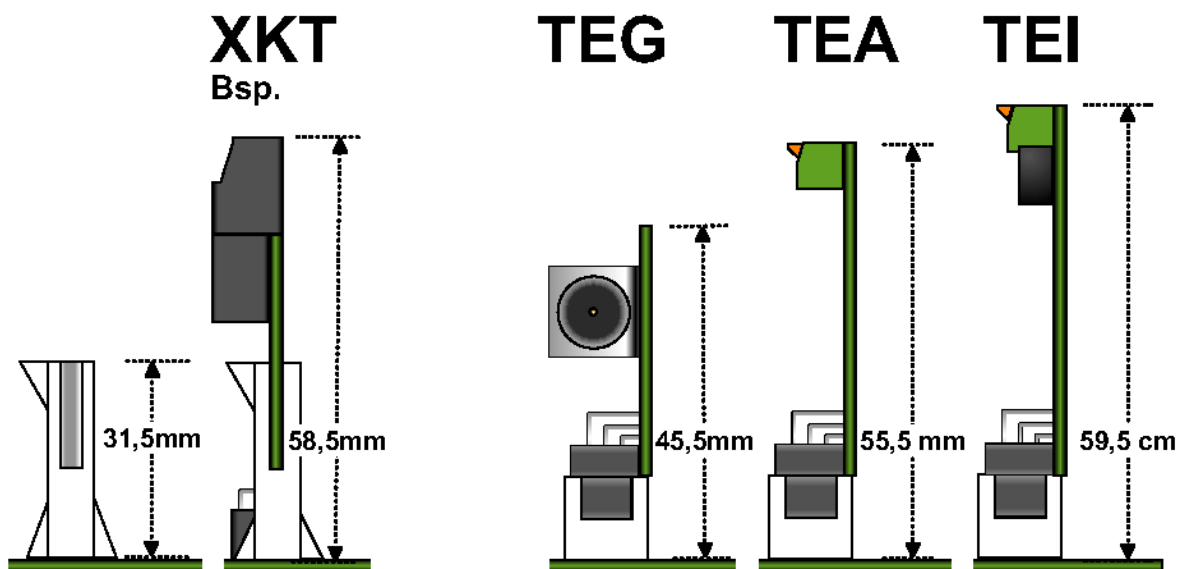
4.3 Status LEDs TLW 1+ (basic assembly group)

4.3.1 Status TLW

The status LEDs of the TLW describes describe various states, starting with the display of malfunctions up to reports which are lined up or are transmitted at the moment.

LED	Off	Statically on	Flashes slowly	Flashes quickly	Pulse
Green	defective/ currentless	Operation	Servicing	Transmission	Remote connection
Yellow	No malfunction	Energy malfunction	Malfunction trans. device/sabotage	-	Configuration not correct
Red	No report	Report lined up	Connection established	Alarm transmitted	

4.3.2 Status USB

Colour	Flashing rhythm	Meaning
Green	Off	defective/currentless
	On	Connection to PC active
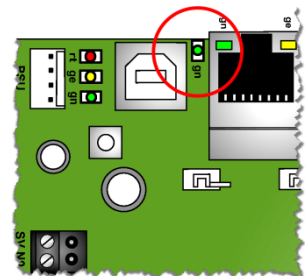
4.3.3 Status LAN
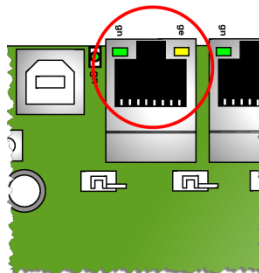
Colour	Flashing rhythm	Meaning
Green	Off	defective/currentless/deactive
	On	Link Up
	Flashing	Data exchange
Yellow	Off	defective/currentless/deactive
	On	100 MBit/s mode
	Flashing	-

Colour	Flashing rhythm	Meaning
Green	Off	defective/currentless/deactive
	On	Connection to path module (UMTS)
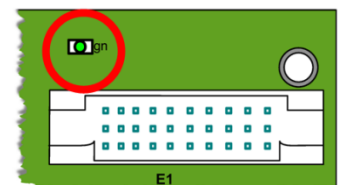
4.4 Inputs on basic assembly group
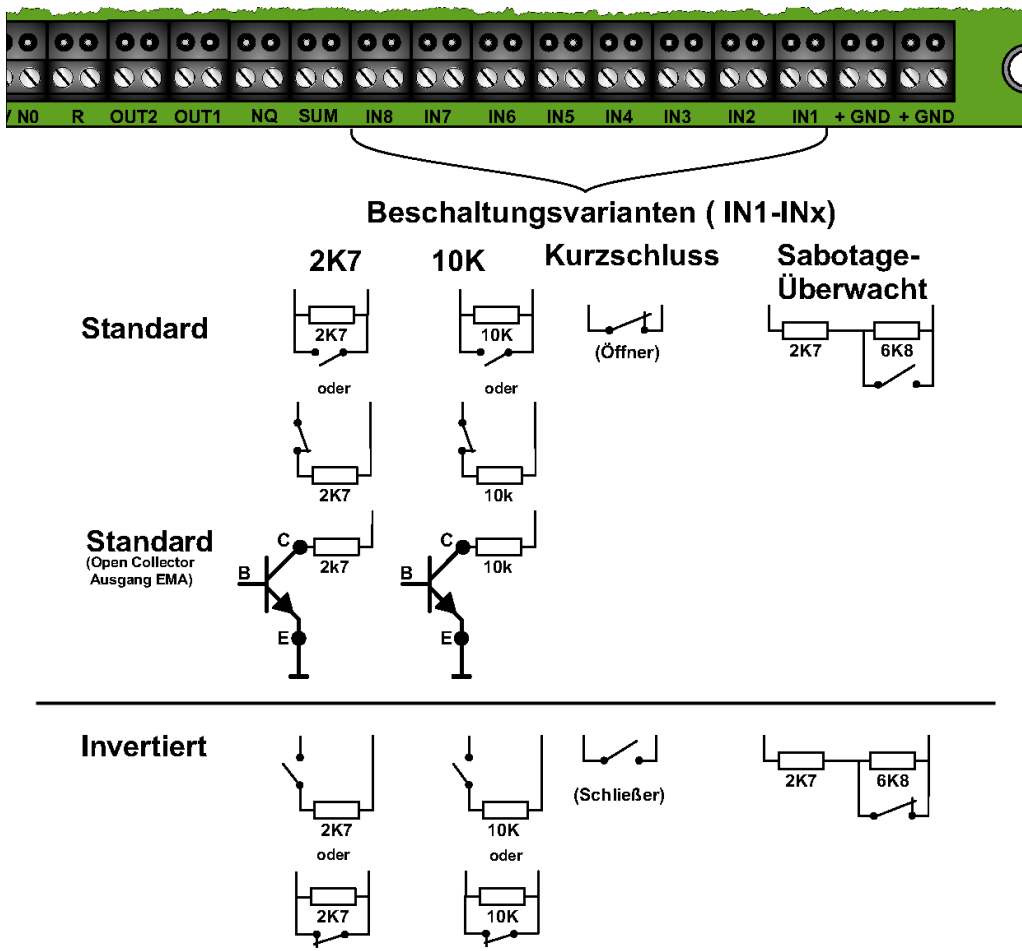
Short circuit line (contact)
Here a report is triggered by opening the short circuit line.

10kΩ /2k7Ω
This means that a report is triggered by a change of resistance of +/- 40%. Hereby a 10kΩ/2k7Ω resistor has to be inserted at the assignment at the detector.

Sabotage monitored

Idle state   10 kΩ   +/-40%;
Triggering state   2k7 Ω +/-40%;

Sabotage state   all resistance values out of the defined area.

⚠️ **Advice!**
All the reporting cables incoming in the system housing have to be earthed via the housing.

4.5   Switching outputs on the basic assembly group
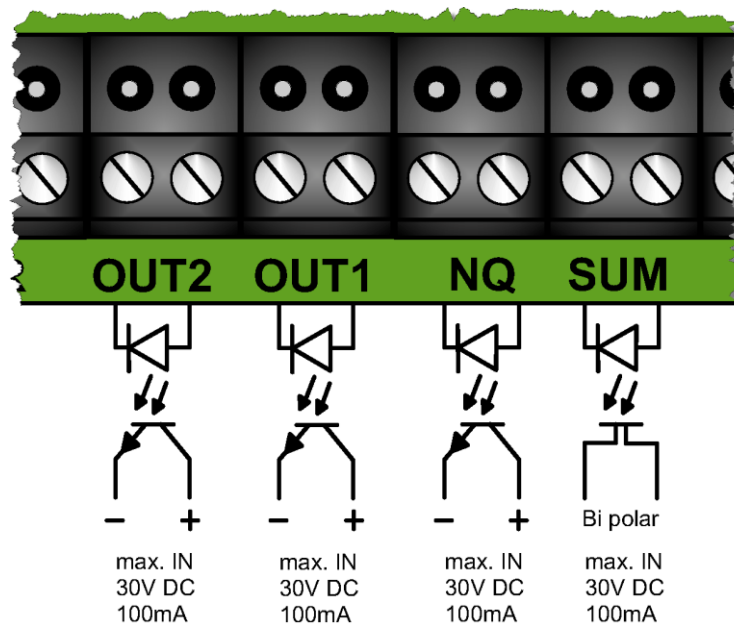
4.5.1   OUT1/2

These switching outputs serve for the switching of a signal e.g. as a remote effect signal or as switching function at the line release. The outputs are potential-free with optocouplers. Here the polarity has to be considered!

4.5.2   SUM

The sum fault port is potential-free with bidirectional optocouplers. In the idle state it is connected through. I fit is released, e.g. by a voltage malfunction, path malfunction etc. (can be configured) it is opened.

4.5.3   Negative acknowledgement

4.5.3.1.1   Negative

This output is closed in idle state (≤ 1kΩ). If a report cannot be transmitted for a period of time of 240 seconds, the output is opened for ≥ 1 second (≥ 500kΩ). The acknowledgment output is potential-free with optocouplers.

4.5.3.1.2   Positive

This output is closed in idle state. The output „negative acknowledgement can display the function „positive acknowledgement if configured. If a report is transmitted, the output is opened for ca. 1 second.

ATTENTION!
Do not charge the potential-free optorelays with more than 100mA at 30V.

4.6   TTA 1 (4 LED)

The TTA 1 is a display module which shows the current state of the TAS-Link III at the outside of the housing. It has to be activated separately in the configuration.

View housing cover G4+
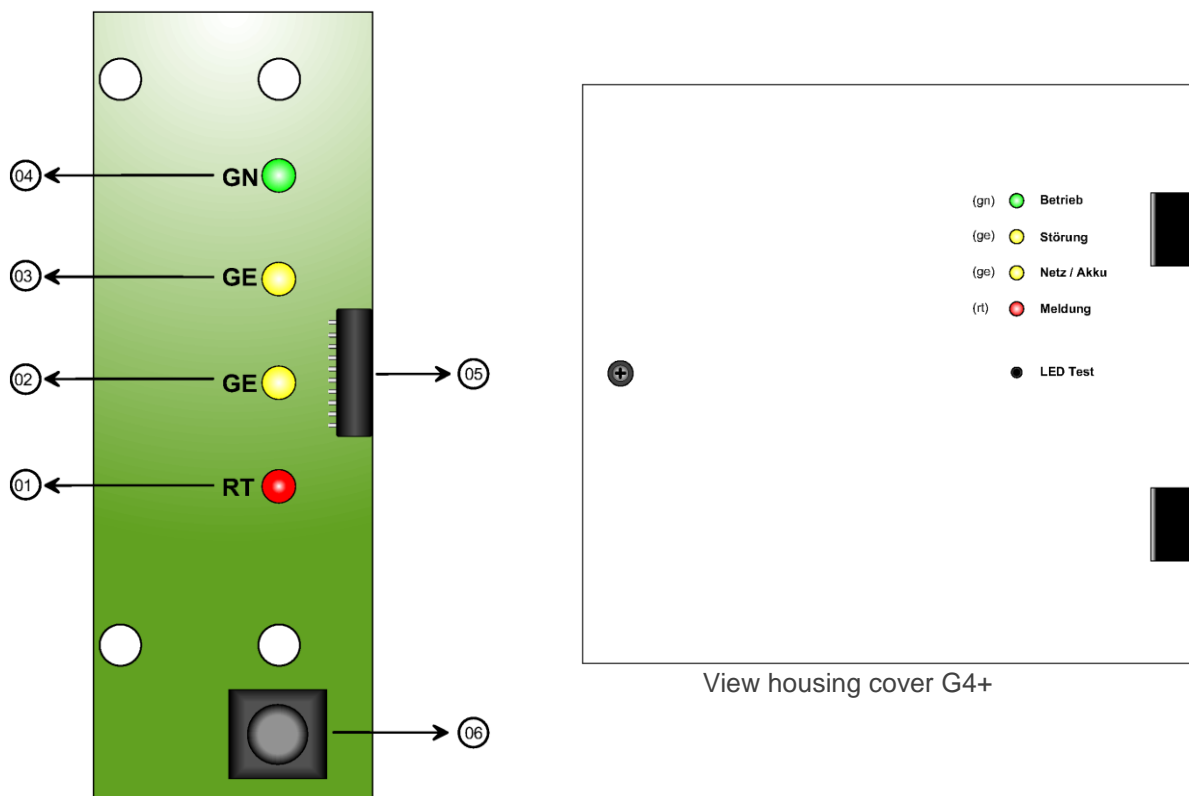
Number	Function
01	Status LED red
02	Status LED yellow 2
03	Status LED yellow 1
04	Status LED green
05	Ribbon cable connection for control of the TTA 1
06	Button for the LED test

4.6.1   Status-LEDs

LED	Off	Statically on	Flashing
Green	Device/LED defective/off	Operation/idle state	Servicing [1]
Yellow 1	No malfunction		Malfunction path/system/transm. extens. module/sabotage
Yellow 2	No malfunction	Malfunction mains *	Malfunction battery
Red	No report in queue	Report lined up/silent alarm *	Report acknowledged

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[1] Meldungen haben Priorität

4.7   DSL 1 (DSL modem)

The assembly group DSL 1 is a DSL modem which supports the frequency bands annex B as well as J and makes the TAS-Link III to a wholesome DSL router.
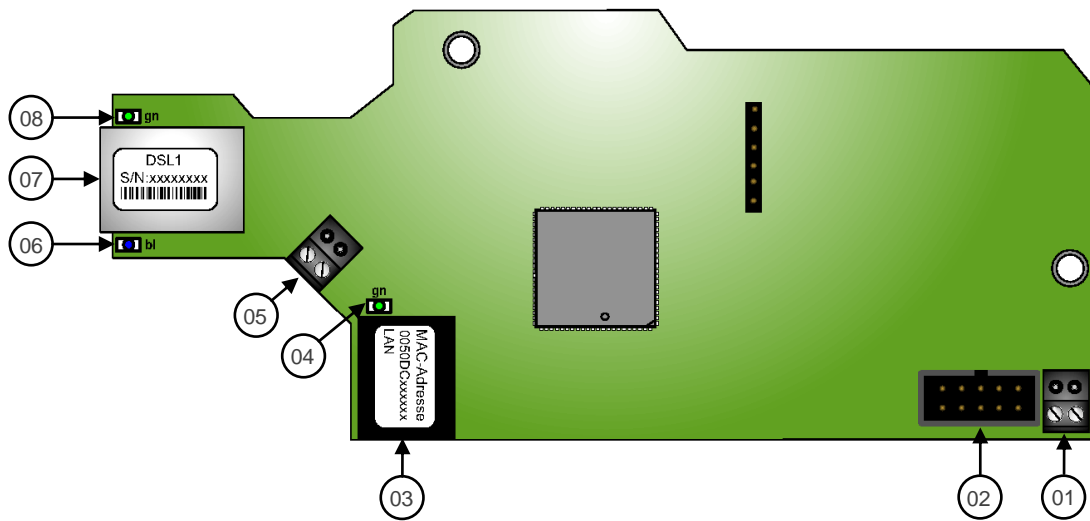
Number	Function
01	Voltage supply (**10 to 14 V DC!!!**)
02	S1-BUS connection to XDS 2
03	ETH bushing for the connection to the TLW 1
04	ETH LED (link on ETH bushing)
05	Terminal connection a/b for DSL signal instead of ETH bushing
06	Status LED blue (online)
07	ETH bushing for input DSL signal instead of terminal connection
08	Status LED green (DSL training)

Attention!

Please consider that the DSL1 modem may only be operated with a voltage between **10** and **14** V DC!

4.8 XDS 2 (carrier assembly group SL1)

The XDS 2 is a carrier assembly group for the DSL modem. It is available in two different versions, with and without voltage transformer. If the TAS-Link is delivered with a power supply unit (12V), the variant without voltage transformer is used, if it 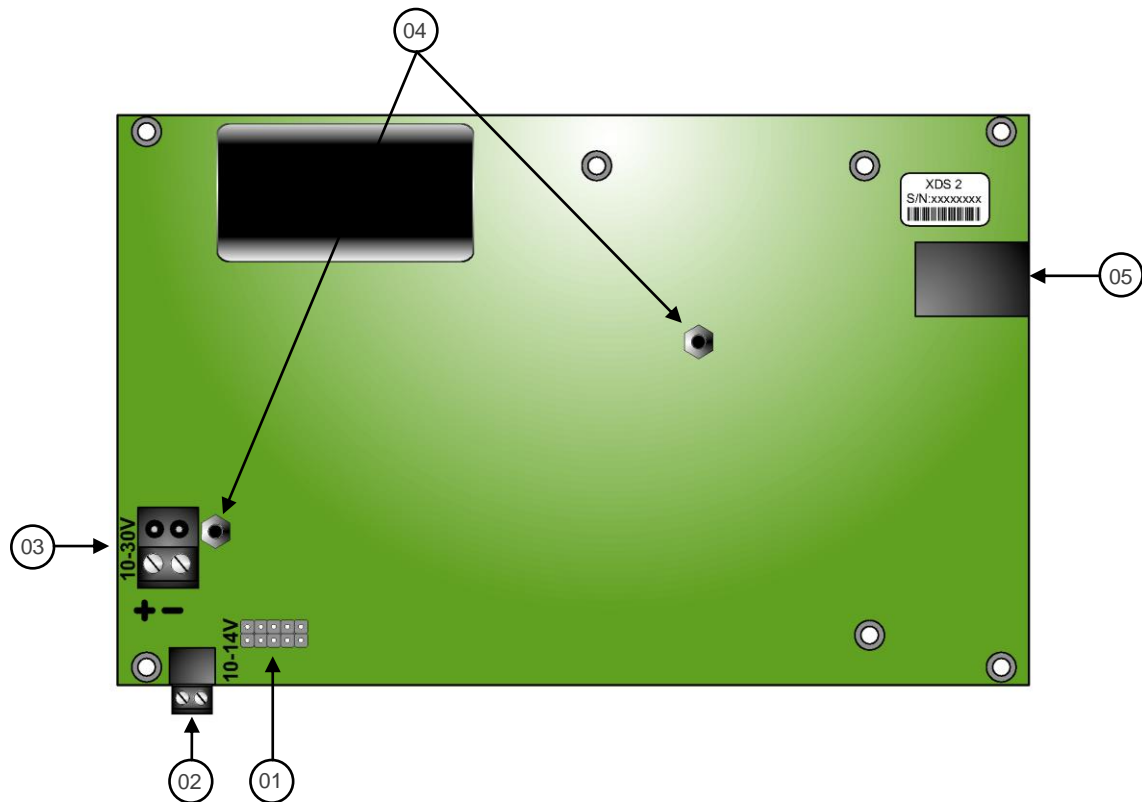is delivered without a power supply unit, the voltage transformer is used. Please consider that the DSL1 assembly group may only be operated within a voltage area of 10-14V DC!

Number	Function
01	BUS plug connector to DSL 1
02	Voltage supply to DSL 1 (10-14V DC!!!)
03	Voltage supply to the TLW 1 (10-30V DC)
04	M3 retaining bolt for DSL 1
05	RJ12 bushing for BUS cable to the TLW 1 (X2)

4.8.1 Modem deactivation

The modem can be deactivated automatically in case of a 230V voltage failure via the so called "PowerDown" function. On top of that, it is reactivated automatically as soon as an alarm report is lined up. You will find the corresponding setting among "port"→ "(0) TLW".

Activate among "function" the function "Power Down". After that, enter a name for the port (OUT 1). At the end invert the port and define via the option "deactivation", how long the 230V voltage failure has to take place until the modem is deactivated. The port does not have to be wired!

4.9   TEG 1 (GSM/GPRS)

The assembly group TEG 1 expands the TAS-Link III either with the GSM or the GPRS path.
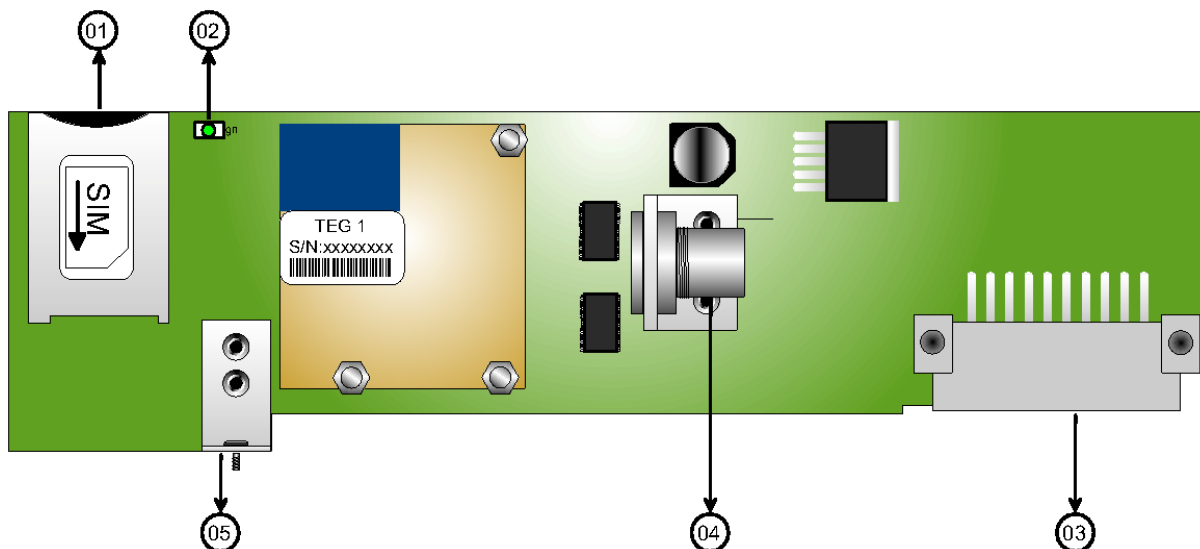
Number	Function
01	SIM card slot for the inclusion of a SIM card (no micro SIM!!!)
02	Status LED of the GSM modem
03	Plug connector for the inclusion on TLW 1 (slot E2)
04	Antenna connection (FME bushing)
05	Mounting bracket

4.9.1   Status LED TEG 1

Colour	Flashing rhythm	Meaning
Green	Off	defective/currentless/deactive
	On	Connection CSD/m-to-m/voice etc.
	0,6s on/off	No SIM/PIN, network search, network login
	75ms on / 3s off	Idle state/logged in/w/o connection
	75ms on/off/on 3s off	GSM/GPRS active
	0,5s on for the duration of the transmission	Data transfer

⚠ Please consider that the support of the CSD data resp. the machine to machine service is inevitable for a control centre intrusion (NSL)! If these services are available for your contract, you will get to know at your mobile network provider.

⚠ Please consider that the receive level (helpdesk) is not essential for the question, if the path can actually be used. The functionality of the radio controlled network behoves solely to the network operator! **Please refer to your provider in case of questions concerning charges etc.!**

4.10 TEG 2 (GSM/GPRS)

The assembly group TEG 2 expands the TAS-Link III either with the GSM or the GPRS path and replaces the TEG 1.
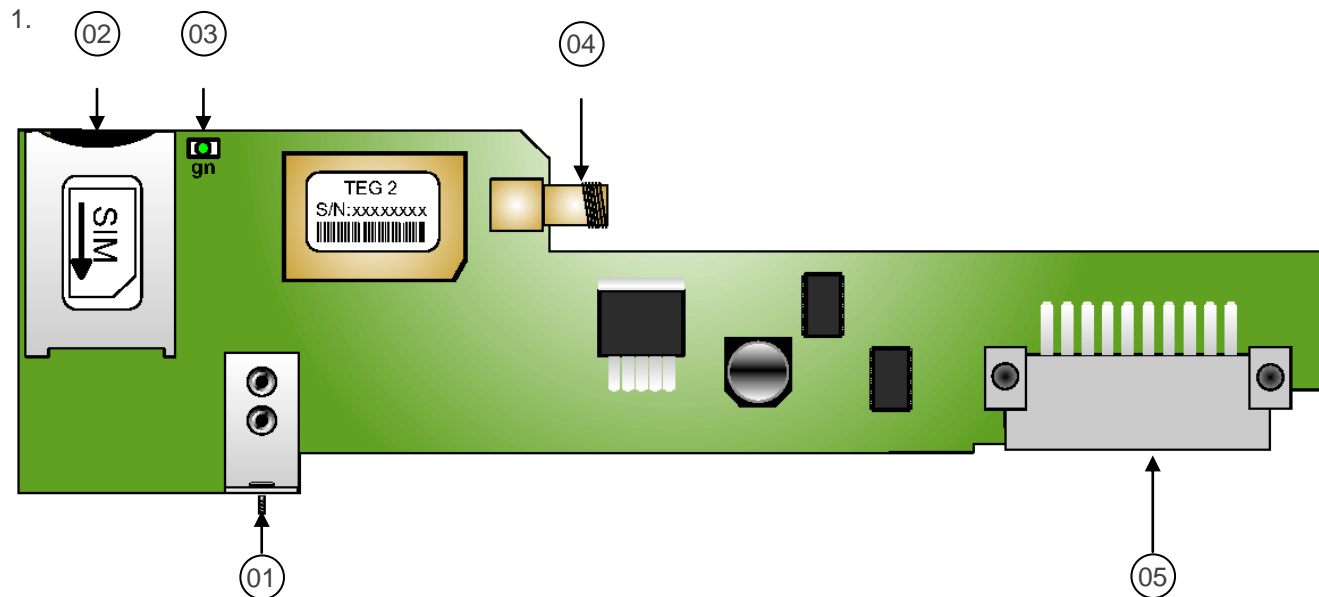
Number	Function
01	Mounting bracket
02	SIM card slot for the inclusion of a SIM card (micro/mini SIM only with an adaptor!!!)
03	Status LED GSM/GPRS
04	Antenna connection (SMA bushing)
05	Plug connector for the inclusion on TLW 1 (slot E2)

⚠️ Please consider that the support of the CSD data resp. the machine to machine service is inevitable for a control centre intrusion (NSL)! If these services are available for your contract, you will get to know at your mobile network provider.

⚠️ Please consider that the receive level (helpdesk) is not essential for the question, if the path can actually be used. The functionality of the radio controlled network behoves solely to the network operator! **Please refer to your provider in case of questions concerning charges etc.!**

4.11 TEU 1 UMTS router (GPRS/UMTS)

The assembly group TEU 1 works like a UMTS router and expands the TAS-Link III with IP path either with the GPRS or the UMTS path. Furthermore, the TEU 1 can be used next to the TEG 1 and thereby allows the use of a double radio device.
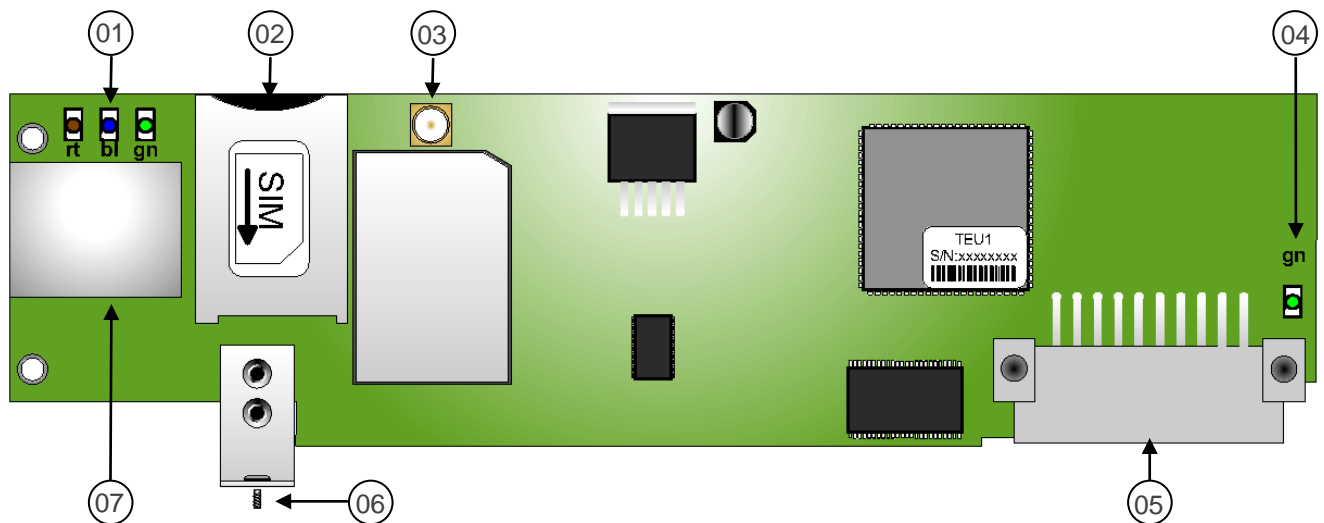
Number	Function
01	Status LED of the GPRS/UMTS modem
02	SIM card slot for the inclusion of a SIM card (micro/mini SIM only with an adaptor!!!)
03	Antenna connection (SMA bushing)
04	USB LED
05	Plug connector for the inclusion on the TLW 1 (slot E1 or E2)
06	Mounting bracket
07	Ethernet bushing (for the connection on the TLW 1)

4.11.1 Status LED TEU 1

Colour	ON	Flashing	OFF
Red	TEU has not yet received a configuration of the TLW	Wrong PIN, no SIM etc.	Normal operation
Green	PPP connection established	PPP connection is established	No PPP connection
Blue	Logged in	Network search	-

Attention! Please consider unconditionally that the TEU 1 has to be connected with the basic assembly group TLW 1 via a customary ethernet cable for the commissioning! Type „*IP*" has to be selected as device type!

Please consider that the receive level (helpdesk) is not essential for the question, if the path can actually be used. The functionality of the radio controlled network behoves solely to the network operator! **Please refer to your provider in case of questions concerning charges etc.!**

4.12 Operation modes TEU 1

The UMTS router TEU 1 for GPRS/UMTS can be operated in two modes.

1. As a path module

If the TEU 1 is used as a path module, it can be plugged at the E1 as well as at the E2. The LAN bushing of the TEU 1 has to be connected with the external LAN bushing of the TLW 1 via a LAN cable and a device type with the path "IP" has to be selected.

2. As a set off variant

If the TEU 1 is used as a set off UMTS router, the TEU 1 is connected with the PMU 2. The voltage supply takes place via the PMU 2 via PoE (Power over Ethernet) or alternatively via a direct source of voltage 10V – 30V DC.

Moreover, the TEU 1 has to be connected with the TLW 1 basic assembly group via a LAN cable. Alternatively, the TEU 1 can also be integrated in an existent network and be connected with the TLW 1 basic assembly group in this way.

4.13 PMU 2 (power supply TEU 1)

PMU 2 offers the voltage supply for the TEU 1, if the TEU 1 is used as a set off variant. The voltage supply can be realised via Power over Ethernet (PoE) or via an external source of voltage.
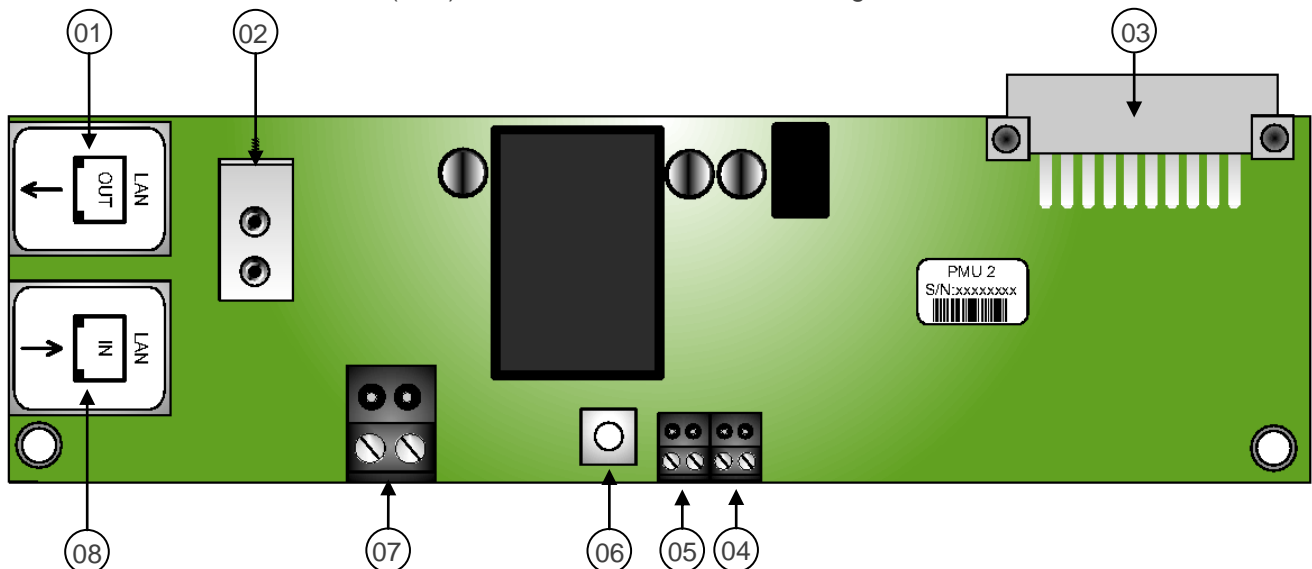
Number	Function
01	LAN bushing OUT (to TEU 1)
02	Mounting bracket
03	Plug connector for the inclusion on TEU 1
04	Cover contact
05	Reset
06	Reset button
07	Power supply 10-30V DC instead of PoE
08	LAN bushing IN (PoE and LAN)

4.14 TEA 1 (PSTN)

The assembly group TEA 1 expands the TAS-Link III with the analogue path (PSTN).
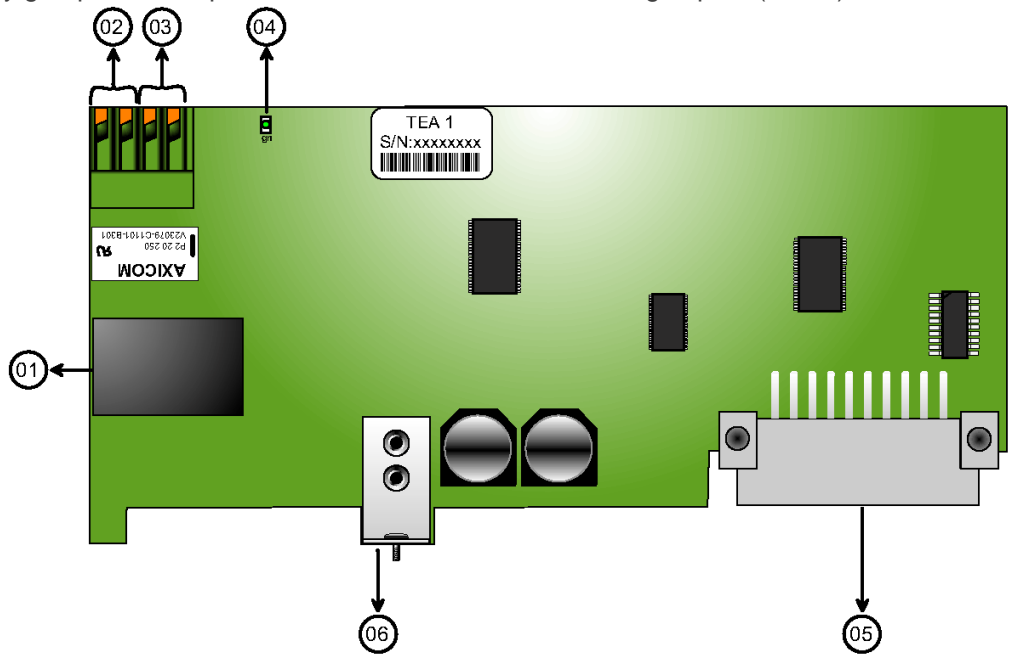
Number	Function
01	PSTN bushing input/output
02	PSTN output (internal)
03	PSTN input (public network)
04	Status LED green
05	Plug connector for the inclusion on TLW 1 (slot E1)
06	Mounting bracket

4.14.1 Status LEDs TEA 1
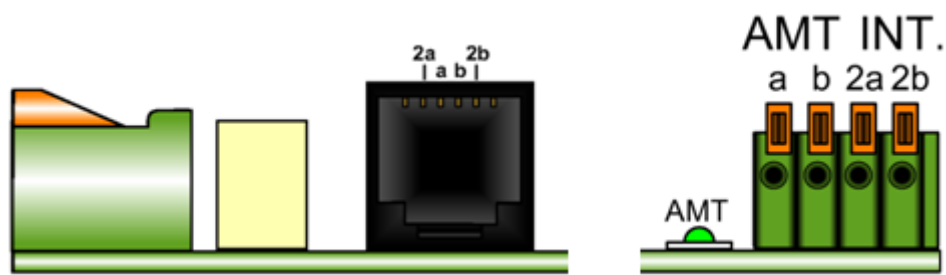
LED	Off	Statically on
Public network	currentless/ defective/ deactivated/ a/b inverted	Public network available

4.15 TEI 1 (ISDN)

The assembly group TEI 1 expands the TAS-Link III with the ISDN path.
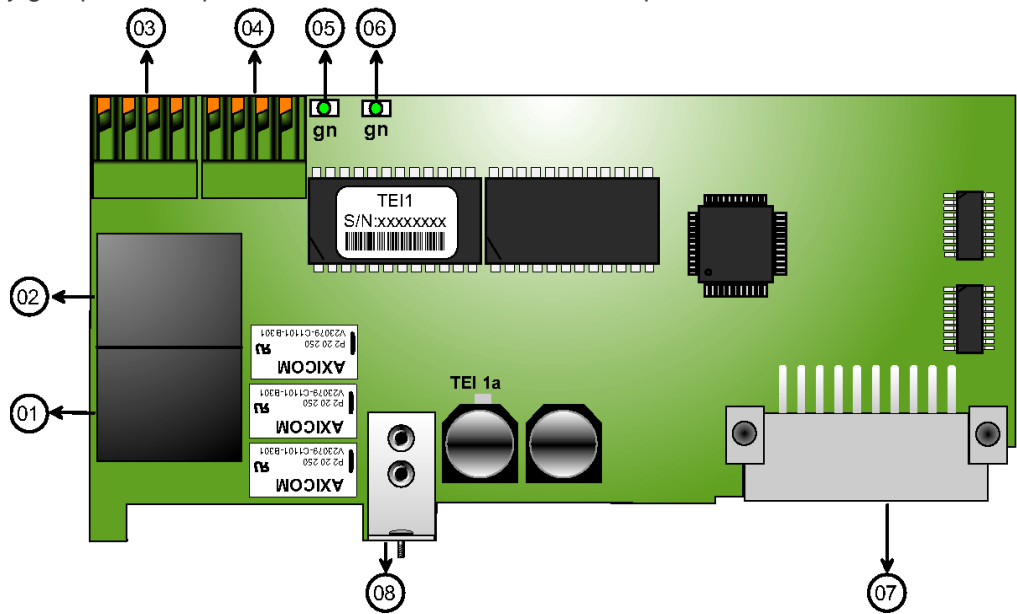
Number	Function
01	ISDN bushing output (internal e.g. TC system)
02	ISDN bushing input (public network)
03	ISDN output (internal e.g. TC system)
04	ISDN input (public network)
05	Status LED ISDN internal
06	Status LED ISDN public network
07	Plug connector for the inclusion on TLW 1 (slot E1)
08	Mounting bracket

4.15.1 Status LEDs and assignment TEI 1
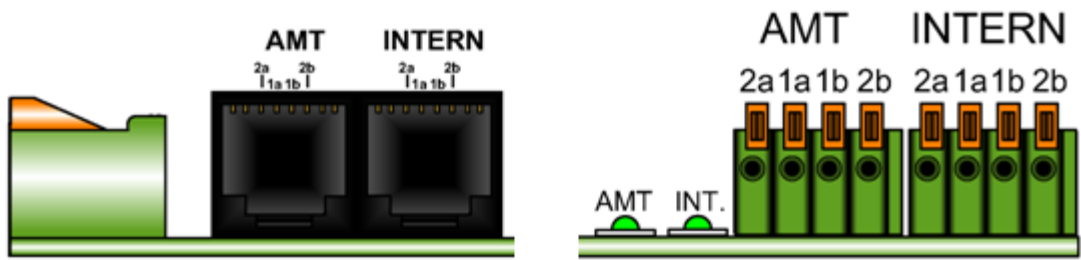
LED	Off	Statically on
Public network	currentless/ defective/ deactivated	ISDN available (layer 2)
Internal	currentless/ defective/ deactivated	ISDN available (layer 2)

4.16 XKT 1 (line extension)

XKT 1 is a line extension which provides the TAS-Link III with 8 additional inputs and 2 additional outputs.
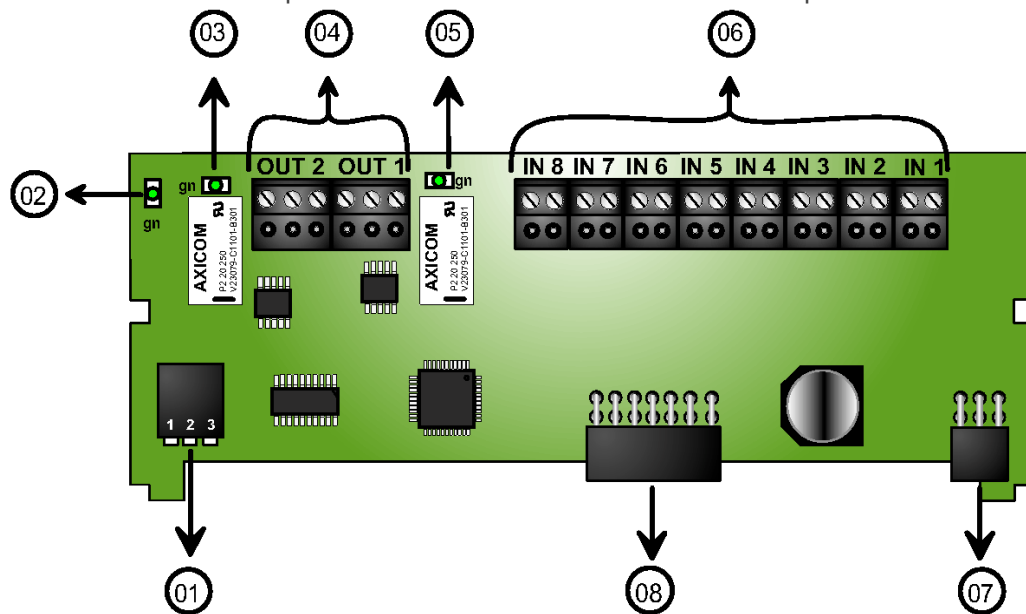
Number	Function
01	Addressing switch
02	Operation LED
03	Status LED OUT2
04	Switching outputs OUT1 - 2 (max. 1A 30V)
05	Status LED OUT1
06	Inputs IN 1- 8
07	6-pole plug connector for the inclusion on TLW 1 (slot X3 - 5)
08	10-pole plug connector for the inclusion on TLW 1 (slot X3 - 5)

4.16.1 Addressing
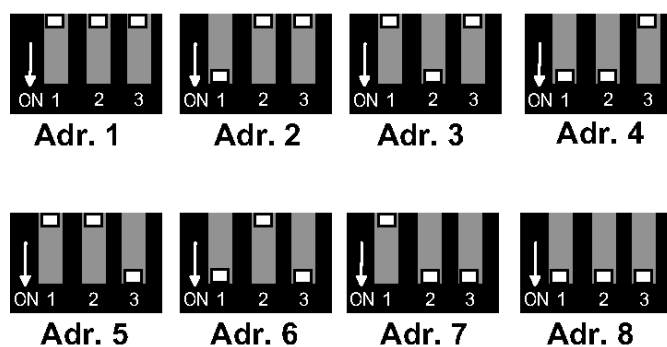
Adr. 1   Adr. 2   Adr. 3   Adr. 4

Adr. 5   Adr. 6   Adr. 7   Adr. 8

Advice!
All the reporting cables incoming in the system housing have to be earthed via the housing.

4.17 XBT 1 (fire alarm extension)

XBT 1 is a fire alarm assembly group which can be used in combination with diode and frequency detectors as well as fire alarm interfaces according to DIN 14675, EN 54-21 and EN 50136.

Number	Function
01	Addressing switch
02	Operation LED1
03	Remote switching output 2 (F2) (max. 1A 30V)
04	Status LED F2
05	Remote switching output 1 (F1) (max. 1A 30V)
06	Status LED F
07	Fault output (ST) (max. 1A 30V)
08	Status LED ST
09	Acknowledgement circuit (R) (max. 1A 30V)
10	Status LED R
11	Connection for the fire alarm direct intrusion
12	Connection for the diode and frequency detectors
13	Operation LED2
14	6-pole plug connector for the intrusion on TLW 1 (slot X3 - 5)
15	Jumper J1 for the potential separation of acknowledgement and fire alarm circuit
16	10-pole plug connector for the inclusion on TLW 1 (slot X3 - 5)

4.17.1 Addressing
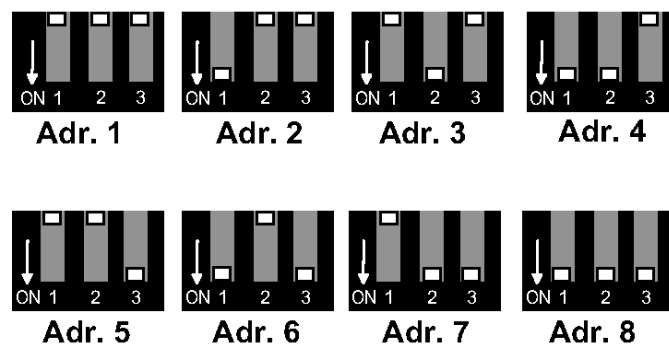
4.17.2 Connection example TF/MDL detector
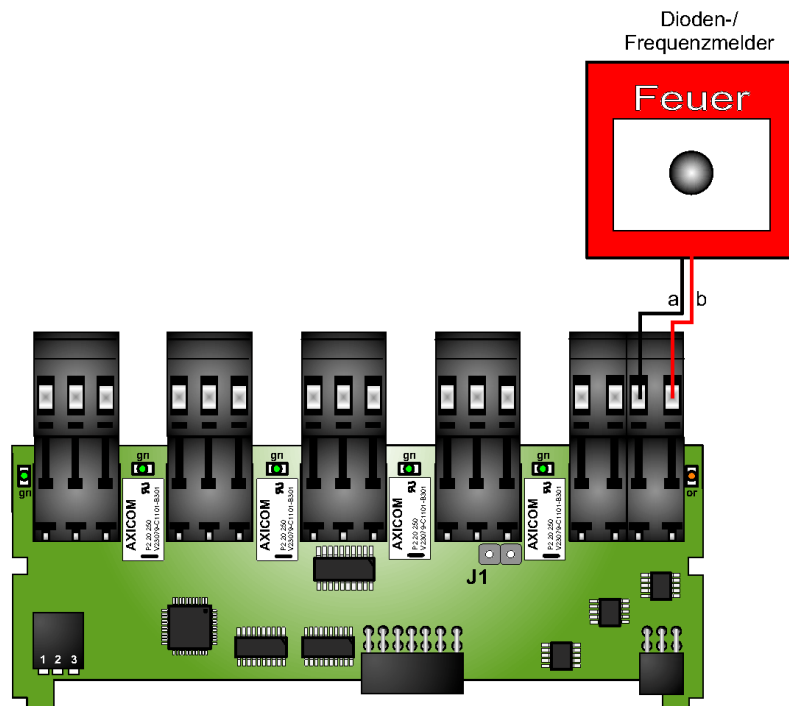
4.17.3 Connection example FAS (electrically isolated)

Advice!
Wiring of the fault contact only necessary, if "*separate A/B circuit"* was not set.
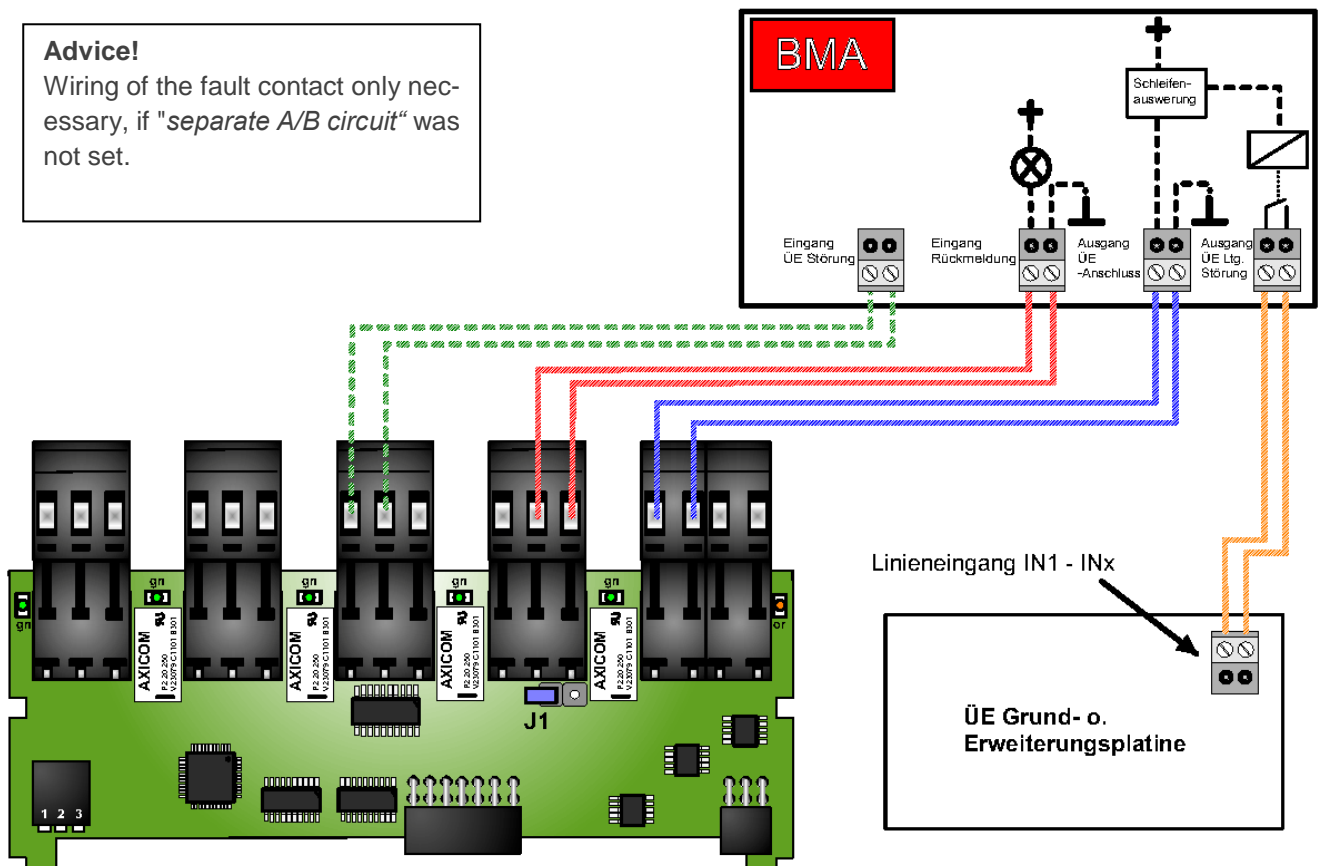
4.18 XRT 1 (relay extension)

XRT 1 is a relay card which provides the TAS-Link III with 8 additional switching outputs.

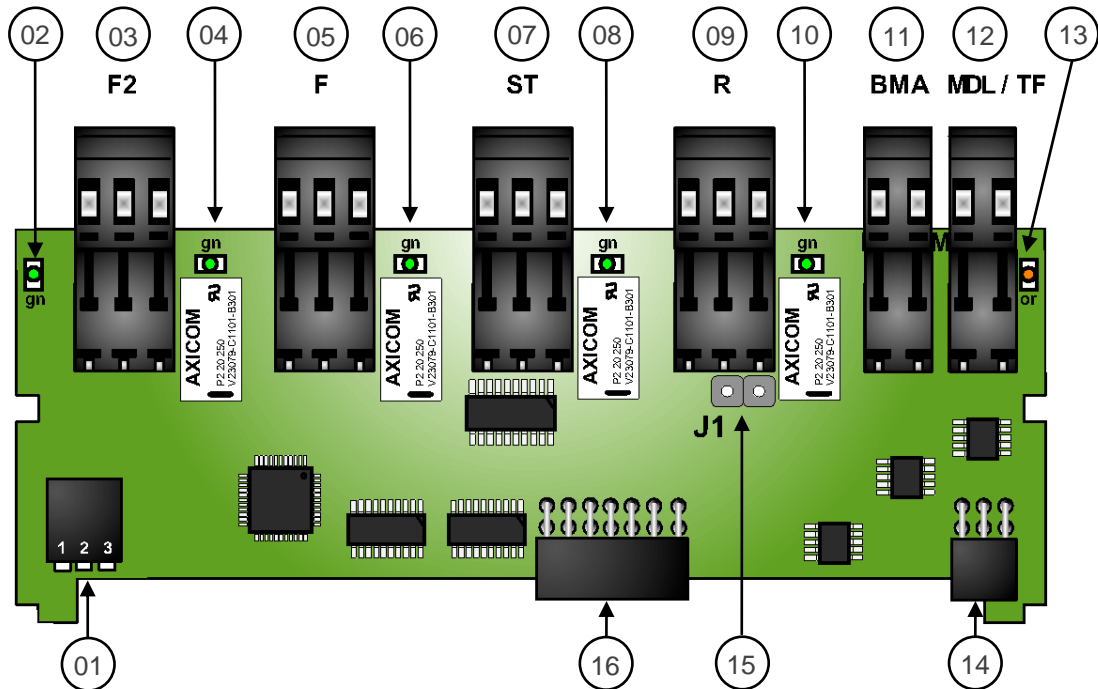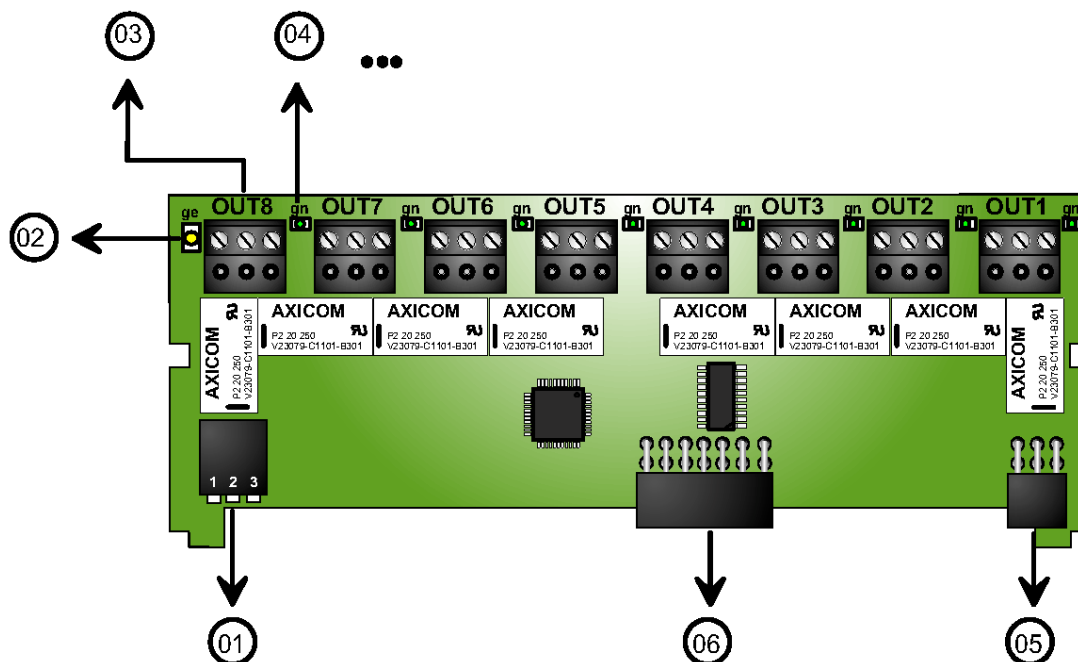| Number	Function
01	Addressing switch
02	Operation LED
03	Switching port OUT 8 (max. 1A 30V)
04	Status LED OUT 8
05	6-pole plug connector for the inclusion on TLW 1+ (slot X3 - 5)
06	10-pole plug connector for the inclusion on TLW 1+ (slot X3 - 5)

4.18.1 Addressing
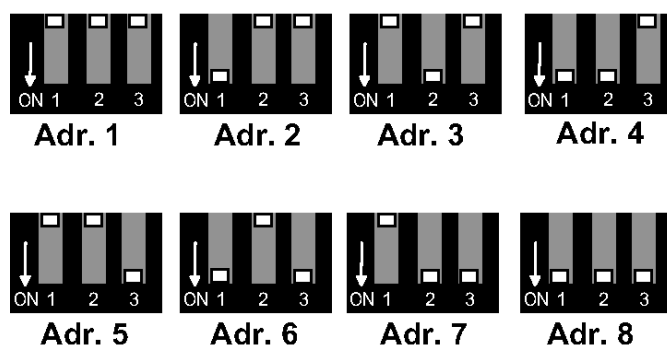
4.19 TXX 1 (carrier assembly group)

The TXX 1 is a carrier for the assembly groups XKT 1, XBT 1 and XRT 1. It is used twice in a G4 housing, if more than 3 extension assembly groups (XBT 1, XKT 1, XRT 1) should be used.
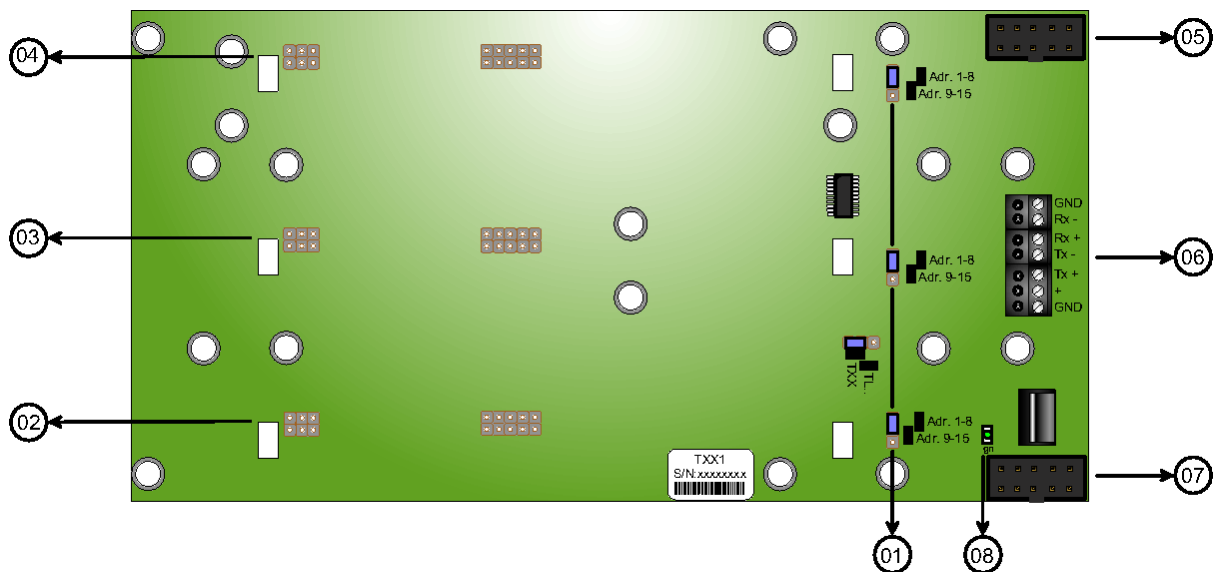
Number	Function
01	Jumper addressing area 1-8 resp. 9-15
02	Plug connection for extension cards (XKT, XBT, XRT)
03	Plug connection for extension cards (XKT, XBT, XRT)
04	Plug connection for extension cards (XKT, XBT, XRT)
05	Plug connection OUT (going to a further TXX, max. 0,9m)
06	V.11 bus and power supply 10-30V DC (external)
07	Plug connection IN (internal, coming from the TAS-Link, max. 0,9m)
08	Operation LED

4.19.1 Addressing

Please address the extension assembly groups with the addresses 1-8 and pay attention that the jumper for the addressing area (TXX) is set to 1-8. If more than 8 extension assembly groups are used, please start counting from the beginning at the 9. extension assembly group, but set the jumper (01) here on the TXX 1 to the addressing area 9-15.

4.19.2 Operation with XAT

In operation in conjunction with the BUS extension XAT1 the assignment at the screw terminals has to be **wired** as follows:

XAT	Rx-	Tx-	Rx+	Tx+
TXX	Tx-	Rx-	Tx+	Rx+

4.19.3 Operation via ribbon cable

If you want to connect the TXX via ribbon cable with the basic assembly group TLW1/TLW1-1, the following circuit lengths apply:

- Ribbon cable rotated with shell (unshielded) up to **90cm** (tolerance <10%)
- Ribbon cable not rotated and without shell up (unshielded) up to **30cm** (tolerance <10%)

4.20 Power supply unit NT560-12/E

The power supply in the housing G4/+ takes place via the power supply unit NT 560-12/E as well as via a 7,2Ah or 12Ah battery.
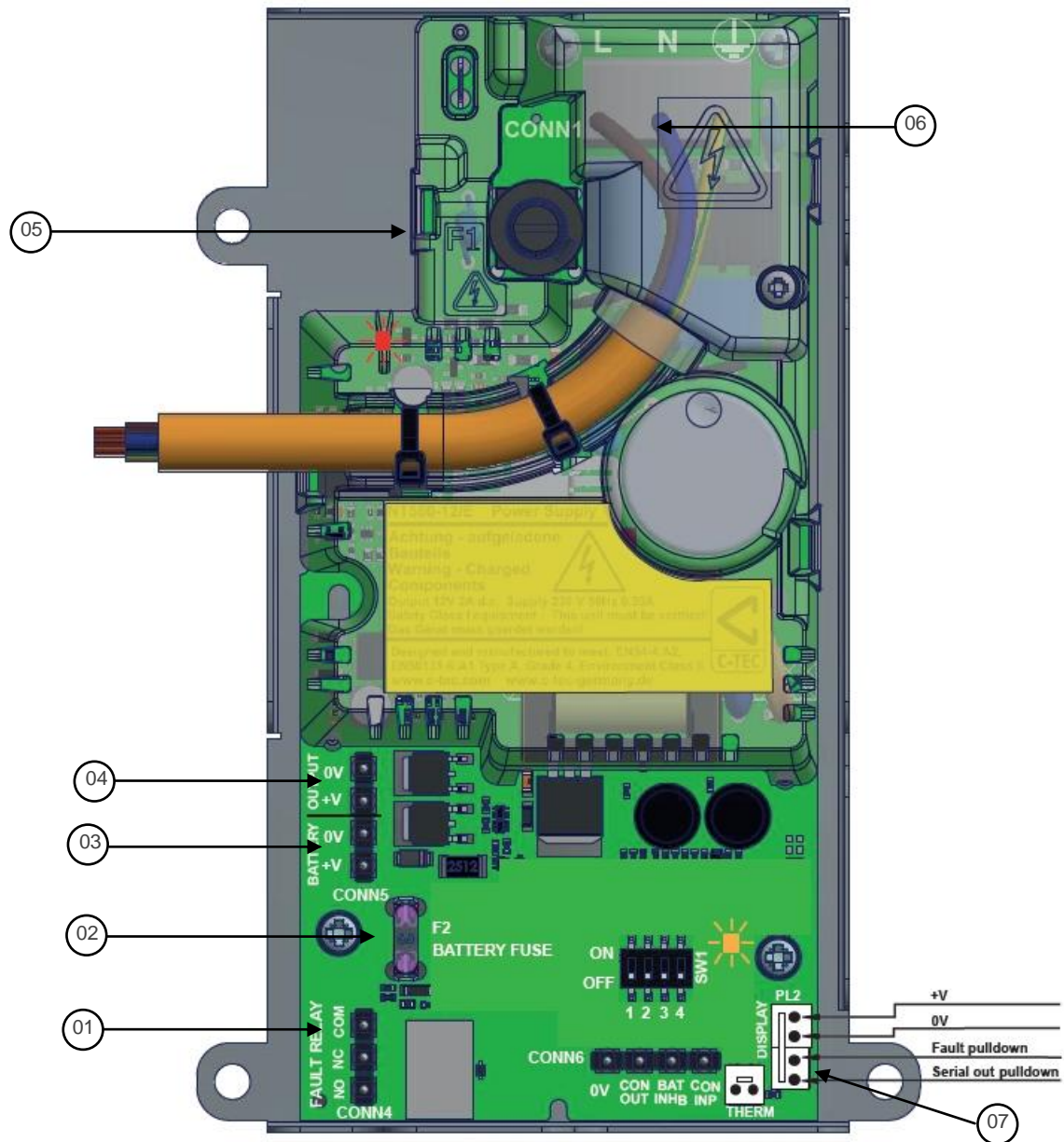
Number	Function
01	Fault relay e.g. at a short circuit
02	Fuse battery 12V DC (F3,15AL250V)
03	Battery connection + - (only at 12V DC batteries from 1 to 12Ah) recommended 1x 12V DC 7,2Ah
04	Power output 12V DC max. 2A incl. charging current
05	Fuse 230V AC (T1AH250V)
06	Mains connection 230V AC 50Hz (L N PE)
07	Connection power monitoring (on PSU to TLW)

5 Software

5.1 Installation

5.1.1 Via CD

Insert the installation CD to the CD/DVD-ROM drive. The option autorun is executed automatically and the CD menu is started.

If the CD menu does not start, you will find the files for the Windows installation on the CD in the Windows directory. Start Autorun.exe and follow the instructions on the display.

5.1.2 Via internet

Alternatively, you can download the current CD as ZIP file on our homepage www.taslink.de via the download area. Unzip the ZIP file with Windows, WinZIP, 7ZIP or similar. After that, open the Windows directory in which you find the setup files for the Windows installation. Start the installation via Autorun.exe and follow the instructions on the display.

5.2 General

5.2.1 Versions
The version status of the SysConf and the device firmware always belong together and form a CD. They may only be used in combination with each other! A locking prevents that older firmware can be used with a later configurator. A read-out of the configuration is not effected by this locking.

CD	SysConf	Firmware
3.30	8.38	8.42

5.2.2 Interface to the PC
The TAS-Link III is parameterized via a USB-B interface via the configurator. To do so, a customary USB-A to USB-B cable (also called printer cable) is required.

5.2.3 System requirements

Component	Recommended
Operating system	Windows® 7 or later (32 or 64Bit)
Processor	Intel® Core i3 / AMD® FX
Memory	2 GB
Graphic	On-Board, min. 1024x768 32 Bit
Hard disc space	ca. 100 MB
Internet connection	Yes, for remote access via TCP/IP
Optical drive	Yes, for installation via CD
Interfaces	
▪ USB	USB 2.0 or later
▪ Network card	100 MBit/s
▪ ISDN	Only remote access via ISDN e.g. via AVM FRITZ!-Card[1]

5.2.4 Standard installation and user directories

Operating system	Directory	Path
XP	Installation directory	C:\Programme\TAS\TAS-Link III
XP	User directory	C:\Dokumente und Einstellungen\All Users\TAS\TAS-Link III
Vista/7/8/8.1/10	Installation directory	C:\Program Files (x86)\TAS\TAS-Link III
Vista/7/8/8.1/10	User directory	C:\Users\Public\TAS\TAS-Link III

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[1] The AVM FRITZ!-Card (PCI) can be used with Windows® 7/8/ 8.1/10 only for the remote access via ISDN! A simulated analogue remote access is not possible.

6 Commissioning

6.1 General

To be able to put a TAS-Link III alarm transmission device into operation, the following steps have to be taken with a non-configured device:

1. Install the configuration software from the CD
2. Connect the service PC via USB cable with the TAS-Link III
3. Start the configuration software
4. Request the version state and the type of device via data transfer→terminal
   e.g. "Config Error TLIII-ISDN/IP V8.28 (1)>"

Display:	Config error	TLIII	ISDN/IP	V8.28
Meaning:	No config on device	TAS-Link version	Type of device	Firmware version

5. If necessary, start a software update with the required type of device via data transfer
6. Create a configuration with the help of the configuration tool SysConf
7. Bring in the configuration to the device via data transfer→configuration
8. If necessary, bring in a key to the device
9. Secure the function via the helpdesk incl. a commissioning test (see the following pages)
10. Complete the commissioning

6.2 Commissioning ISDN/PSTN at NGN connections

The fixed network is subject to modifications today and more and more "real" ISDN resp. analogue connections are replaced by so called NGN (Next Generation Network) connections. These, also called „ALL-IP", connections are characterized by the fact that all communication to the external is based on the internet protocol (IP).

Real analogue resp. ISDN connection were characterized by the fact that in each case an own signal (analogue/ISDN) was put on a circuit either on an own circuit or together with a DSL signal on one circuit. Via a splitter and, if necessary, a NTBA the signals were separated. At NGN connections the analogue resp. ISDN signal are dispensed completely. Therefore, the use of a splitter or, if necessary, a NTBA is not necessary any more.

The DSL router (Speedport, FRITZ!Box etc.) provides in almost every case analogue connections (TAE) as well as, in some cases, an internal S0 (ISDN) connection. Unfortunately, these connections are optimized purely for telephone services and therefore no wholesome analogue resp. ISDN connections in terms of data transmission. For this reason, it is no longer possible to realise a NSL (Notruf Service Leitstelle) intrusion or a SMS dispatch via the fixed network with NGN connections (no matter, if analogue or ISDN). An alarming via voice via the TAS-Link still works nevertheless.

For an undisturbed intrusion on a NSL a **"real"** ISDN/analogue connection is necessary inevitably. Furthermore, the ISDN connection has to provide CIP 2 service for intrusions and the CIP 18 service for remote accesses (layer 1 > HDLC, layer 2 > X.75, layer 3 > transparent).

Alternatively, it can be avoided to a NSL intrusion via IP (DSL) or radio network (GSM/GPRS…).

6.3 Commissioning of radio transmissions (GSM, GPRS, UMTS)

6.3.1 General

Please consider the following listed points at the commissioning of a TAS-Link III in conjunction with radio controlled paths.

Furthermore, please consider that the receive level is not essential for the question, if a transmission can actually be executed. In every case a mini SIM (not micro or nano SIM!!!) is required.

6.3.2 GSM

For transmissions via GSM to a NotrufServiceLeitstelle the CSD data service is required inevitably. A report has a volume of < 1kB. Moreover, the CSD data service is required for the remote servicing via GSM.

6.3.3 GPRS/UMTS

For a transmission via GPRS/UMTS the internet service is required. A remote servicing via these paths is only possible via TCS (TAS Connection Server).

6.3.3.1 SVC (demand-driven) connection

One report has a volume of <1kB if unencrypted, <2kB if encrypted.

6.3.3.2 SVCP (standing) connection

At an underencrypted GPRS/UMTS connection a data volume of approx. 50Mb/month arises. An encrypted GPRS/UMTS connection requires approx. 200Mb/month in terms of data volume.

6.3.4 Data volume at GSM/GPRS/UMTS for NSL assignment

Overview of the estimated data volume.

	VdS 2465	VdS 2465-S2 encrypted demand-driven	VdS 2465-S2 encrypted permanent	VdS SecurIP Demand-driven	VdS SecurIP Demand-driven
GSM	1 Msg.. < 1Kb	✘	✘	✘	✘
Mobile Web	✘	1 Msg. < 2Kb	< 200Mb per month	To be quantified	To be quantified

6.3.5 Data volume at IP/GPRS/UMTS for TCS assignment

Due to unknown variables such as amount as well as mode (firmware update, helpdesk etc.) of the remote accesses, only the arising basic data volume, which is caused by the regular polling, can be defined certainly.

This can be calculated as follows: basic data volume = 150 bytes x amount of devices x amount of pollings

1 polling has a volume of 150 bytes. The amount of devices should be known to the operator and the amount of pollings result of the configuration (mask "access administration", "polling in s").

6.3.6 Services

In the following you will find a table containing the required services. For further information, please contact your provider.

	GSM	GPRS (2G)	UMTS (3G)
NSL	CSD	Internet (TCP/IP)[1]	Internet (TCP/IP)[1]
Voice	Voice service	Not available	Not available
SMS	SMS service	Not available	Not available
E-mail	Only via->E-mail gateway	Internet (TCP/IP)[1]	Internet (TCP/IP)[1]

7 Servicing/maintenance

The servicing has to take place according to the guideline VDE 0833.

A Windows PC (Windows XP or later), which has the current TAS-Link software of the according TAS-Link transmission devices installed to it, is crucial for checking the TAS-Link transmission devices. Additionally, a USB connection cable is needed to connect the PC/notebook with the transmission device.

Following a guide for the servicing / maintenance:

- Read out the configuration data from the transmission device and save them on the PC.
- Check the software version, in relation to published manufacturer specifications. If necessary, update the software.
- Checking of the supply voltage (230V power adaptor).
- Simulate a mains failure at emergency power supply (battery) and test the battery operation.
- Is a change of battery necessary? Check the manufacturer specifications regarding durability and document these. Caution! RISK OF EXPLOSION IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.
- Check the function of the sabotage equipment (at TAS-Link in the system housing) (cover contact/drill through protection).
- Check the availability of the transmission paths (commissioning test, helpdesk).
- Read out the event memory to see possible failures of the transmission paths. At redundant paths, disrupt every path on its own and check the behaviour.
- At GSM transmission devices check the signal strength and read out the event memory to see variations.
- Check the time in the TD. If no synchronization via the transmission path(s) is possible, set manually, if necessary.
- Check the function of wired inputs and outputs.
- Create test reports to the NotrufServiceLeitstelle (NSL).
- Check the transmitted reports in terms of their content and their time stamp and align them with the NSL.
- Test of the system reports. Align check of the reports with the NSL and control of the entries in the event memory.
- Check the event memory for irregularities.
- Analyse fault reports in the event memory.
- If available, check the function of additional services such as voice or SMS reports.
- Optical check connection technique and mechanics, placement of the battery, antenna etc.

8 Technical data

8.1 Basic assembly group TLW 1+

Operating voltage	10,2 – 30V DC
Current consumption	ca. 80mA (TLW 1) / ca. 45mA (TLW 1-1)
Measurements (w x l)	125 x 160mm
Weight	ca. 150g

8.2 Path and extension modules

8.2.1 DSL 1 modem

Measurements (w x l x h)	65x143x16mm
Operating voltage	10 – 14 V DC
Current consumption	ca. 350mA@12V DC
DSL standard	Annex B, J
Weight	ca. 80g

8.2.2 Carrier assembly group XDS 2 for DSL 1

Measurements (w x l)	100 x 160mm
Weight	ca. 90g

8.2.3 TEA 1 PSTN path module

Measurements (w x l)	55 x 125mm
Current consumption	ca. 7mA@12V DC / 3mA@24V DC
Weight	ca. 50g

8.2.4 TEI 1 ISDN path module

Weight (w x l)	60 x 125mm
Current consumption	ca. 7mA@12V DC / 3mA@24V DC
Weight	ca. 70g

8.2.5 TEG 1 GSM/GPRS path module

Measurements (w x l)	45 x 160mm
Current consumption idle 2G	ca. 15mA@12V DC / 6mA@24V DC
Current consumption report/SVCP 2G	ca. 45mA@12V DC / 22mA@24V DC
Weight	ca. 60g

8.2.6 TEG 2 GSM/GPRS path module

Measurements (w x l)	45 x 160mm
Current consumption idle 2G	ca. 15mA@12V DC / 6mA@24V DC
Current consumption report/SVCP 2G	ca. 45mA@12V DC / 22mA@24V DC
Weight	ca. 40g

8.2.7 TEU 1 GPRS/UMTS router

Measurements (w x l)	60 x 160mm
Current consumption idle 2G	ca. 65mA@12V DC / 32mA@24V DC
Current consumption report/SVCP 2G	ca. 90mA@12V DC / 45mA@24V DC
Current consumption idle 3G	ca. 65mA@12V DC / 32mA@24V DC
Current consumption report/SVCP 3G	ca. 110mA@12V DC / 55mA@24V DC
Weight	ca. 60g

Current consumption of all assembly groups was measured in idle state at 12V and 24V.

8.2.8   XKT 1 line extension module

Measurements (w x l)	45 x 118mm
Current consumption	ca. 3mA@12V DC / 2mA@24V DC
Max. load per switching output	1A / 30V DC
Max. conduit length inputs	up to 500m
Weight	ca. 34g

8.2.9   XBT 1 fire alarm extension module

Measurements (w x l)	45 x 118mm
Current consumption	ca. 5mA@12V DC / 3mA@24V DC
Max. load per switching output	1A / 30V DC
Max. conduit length a/b | FAS	up to 500m | up to 15m
Weight	ca. 39g

8.3   Accessory

8.3.1   TTA 1 external LED (4 LED)

Measurements (w x l)	32 x 75mm
Current consumption	ca. 12mA@12V DC / 7mA@24V DC
Weight	ca. 9g

8.3.2   TXX 1 carrier circuit board for extension modules XKT, XBT, XRT

Measurements (w x l)	100 x 197mm
Operating voltage	10,2 – 30V DC
Max. BUS length (V.11)	up to 1000m
Max. BUS length (flat ribbon cable rotated with casing)	up to 0,9m (tolerance <10%)
Max. BUS length (flat ribbon cable not rotated)	up to 0,3m (tolerance <10%)
Weight	ca. 85g

8.4   System housings

Colour	traffic white RAL9016
Material	sheet steel powder-coated
Protection class	IP54

Housing	Measurements (w x h x d)	Weight
G2	145 x 240 x 100mm	1,1kg
G4	310 x 275 x 115mm	4kg
G4+	310 x 275 x 135mm	5kg
G6	480 x 460 x 110mm	8kg
G8	500 x 610 x 208mm	15kg
Underbuild housing G4	310 x 275 x 115mm	4kg

Current consumption of all assembly groups was measured in idle state at 12V and 24V.

8.5   Power supply

8.5.1   C-Tec NT560-12/E

Supply voltage	230 (195-253) V AC, 50/60Hz
Protection class	I, with protective conductor connection
Mains/battery protection	1A T H 250V (mains) 3,15A F L 250V (battery)
Output voltage	12V DC
Battery charging capacity	2,0Ah – 12,0Ah
corresponds to the norm	EN54-4 4:A2, VdS2115, VDE0100-410
Measurements (l x w x d)	174 x 117 x 54mm
Weight	ca. 440g

8.6   Approvals/standards

VdS approval no.	G112801
VSÖ approval no.	W120611/01E
CPD no.	0786-CPD-21139
EN grade	1-4 (only if TD is within the AS)
Transmission classification according to EN 50136	
▪ GSM	SP1-SP3
▪ IP	SP1-SP6
▪ GPRS or UMTS	SP1-SP5
▪ IP and GSM	DP1-DP2
▪ IP and GPRS or UMTS	DP1-DP4
Interference immunity	EN50082 part2
Interference radiation	EN80081 part1
Fulfilled emission standard	DIN EN55022:2010
Device corresponds to	VdS 2463 / 2465 / 2471 / 2227 / 2110 DIN VDE 0833 part 1,3
Time till creating an acknowledgement signal	<100ms (measured from the time when the condition of the interface to the AS changes)
Error detection time	<200ms
Servicing	according to guideline VDE 0833
Device electrically checked according to	EN 60950
Environment class	II according to VdS 2110
Operating temperature	-10°C up to +40°C (non condensing)
Storage temperature	-25°C up to +70°C (non condensing)
max. storage time at max. storage temp.	ca. 10 years

8.7 Copyright and License Information

Please note that some of our software is covered by the General Public License (GPL) / Lesser General Public License (LGPL).

You will receive a list of our alarm transmission devices via https://www.tas.de/produkte-services/uebertragungstechnik. On the respective product site the appropriate copyright and License information can be viewed. In addition, you will find these in the user directory after installation.

OS	Path
XP	C:\Dokumente und Einstellungen\All Users\TAS\[*Produktname*]\Betriebssoftware\Erweiterungen
Vista/7/8/10	C:\Users\Public\TAS\[*Produktname*]\Betriebssoftware\Erweiterungen

ATTENTION!

Please refer to the handbook for further information! You will find this on the supplied CD, in the configuration tool „SysConf" among „help"→"handbook" or as a download file among www.taslink.de.

TAS

SICHERHEITS- UND
KOMMUNIKATIONSTECHNIK

Technical hotline TAS-Link
Tel.: +49 2166 858344
E-mail: taslink@tas.de
Mo-Thu 8 a.m.-5 p.m.
Fr   8 a.m.-3:30 p.m.

Telefonbau Arthur Schwabe GmbH & Co. KG
Langmaar 25
41238 Mönchengladbach

Tel.: +49 2166 8580
Fax: +49 2166 858150

E-mail: info@tas.de
www.tas.de