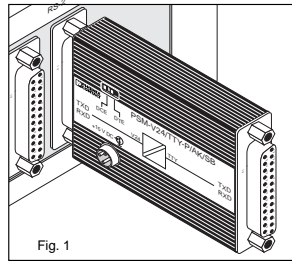**ENGLISH**   **RS 222-2022**

Phoenix PSM Interface Modules PSM-V24/TTY…

Fig. 1

This package slip is valid for the following plug modules:

| Type	Order No.	Operating mode
PSM-V24/TTY/SB	27 87 34 7	half-active
PSM-V24/TTY/BB	27 87 35 0	half-active
PSM-V24/TTY/AK/SB	27 61 41 5	active (passive, half-active)*
PSM-V24/TTY/AK/BB	27 61 40 2	active (passiv, half-active)*
PSM-V24/TTY-P/PA/SB	27 87 24 0	passive
PSM-V24/TTY-P/PA/BB	27 87 25 3	passive
PSM-V24/TTY-P/HA/SB	27 87 28 2	half-active (passive)*
PSM-V24/TTY-P/HA/BB	27 87 29 5	half-active (passive)*
PSM-V24/TTY-P/AK/SB	27 87 22 4	active (passive, half-active)*
PSM-V24/TTY-P/AK/BB	27 87 23 7	active (passive, half-active)*

* Alternative mode of the TTY side

Explanation of the type code

Example: PSM-V24/TTY-P/AK/SB
- Phoenix V.24 connection (here: male)
- Phoenix TTY connection (here: female)
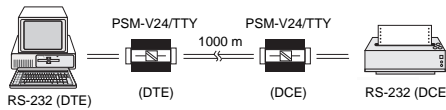- Operating mode (here: active)
- Potential separation

V.24 $\triangleq$ RS-232

1. Description / Applications

• Interface adaptation between V.24 and TTY equipment

Fig.2
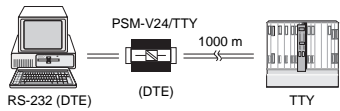
• Bridging of distances of up to 1000 m between V.24 equipment

Fig.3

Independent of a protocol, the interface converters convert the V.24 voltage signal to the signal level of the 20 mA current loop interface. Software handshaking is supported.

The plug modules differ by the possible **operating modes active, half-active and passive,** and by the presence or absence of **potential separation** (module identification "-P").

⚠️ **With distances of > 100 m, it is recommended to use modules with electrical isolation!**

The modules with potential separation provide electrical isolation between the RS-232 and TTY interfaces.

2. Installation Notes

2.1. Handling

• V.24 interface of the computer 25-pos.:
Plug the module onto the interface (see Fig. 1) and fasten the fixing screws manually tight, using an appropriate tool ifnecessary!

• V.24 interface of the computer 9-pos.:
Adaptation between computer and 25-pos. female connector of the PSM converter with an **adapter cable** (Fig.4):
PSM-KAD-9SUB 25/BS (Order No. 27 61 29 5).

Refer to the block diagrams for the pin assignment of the SUB-D connector!

Fig. 4

2.2. Voltage Supply of the PSM Plug Modules

• Via a separate plug-in power supply (connection: see Fig.5):
PSM-NT-110AC/15DC/100, Artikel-Nr. 2787457, bzw.
PSM-NT-230AC/15DC/100, Artikel-Nr. 2787444

• or via connection cable
PSM-VLTG/1,5METER (Order No. 2787460)
from any power supply (15 V DC, regulated).

• or via the V.24 (RS232) interface (see block diagrams):
Pin 18 (+12 V DC) and Pin 7 (SGND/ground).

DTE/DCE slide switch

Connector for plug-in power supply   Fig.5
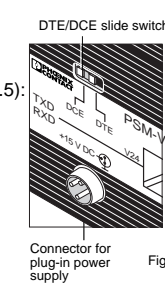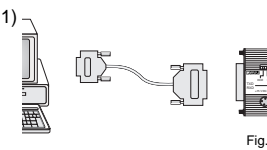
2.3. RS-232 Interface Adaptation

Set the DTE/DCE switch on the top of the housing (Fig.5)!

Prerequisite: The RS-232 interface type of the connected device (computer, printer, etc.) is indicated in the appropriate manual!

For connection to:
- Data terminal equipment (DTE): → Set switch to DTE.
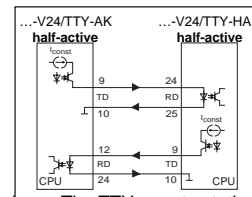- Data circuit-terminating equipment (DCE): → Set switch to DCE.

If the RS-232 interface type of the peripheral device is unknown, you can set the correct configuration of the RS-232 (v.24) interface **by trying out the switch setting.**

2.4. Examples of the TTY Coupling of Two PSM Modules
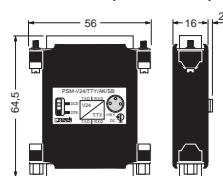
2.4.1. Two active modules   **2.4.2.** Two half-active modules
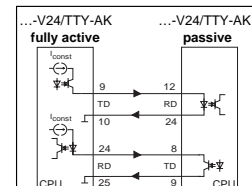
2.4.3. Half-active and active* module in half-active operating mode   **2.4.4.** Active and passive module
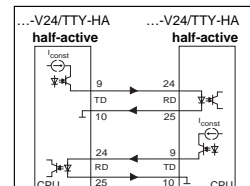

* ⚠️ The TTY remote station must feature potential separation between transmitter and receiver!
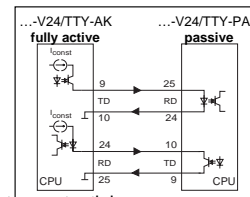
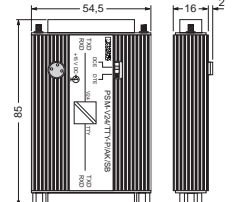## 3. Dimensions

3.1. without potential separation   **3.2.** with potential separation

4. Block Diagrams

4.1. PSM-V24/TTY…/AK/…   ### 4.2. PSM-V24/TTY-P/HA/…
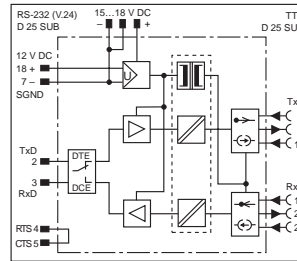
AK module circuit versions

Mode: fully active	transm. active	receiver active
Current output	Pin 9	Pin 24
Current input	Pin 10	Pin 25
passive	passive	passive
Current output	Pin 9	Pin 24
Current input	Pin 8	Pin 12
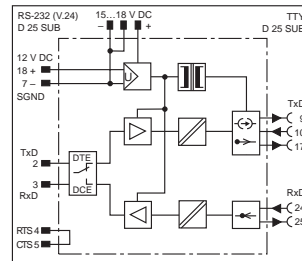
HA module circuit versions

Mode: half-active	transm. active	receiver passive
Current output	Pin 9	Pin 25
Current input	Pin 10	Pin 24
passive	passive	passive
Current output	Pin 17	Pin 25
Current input	Pin 10	Pin 24

4.3. PSM-V24/TTY…   ### 4.4. PSM-V24/TTY-P/PA/…
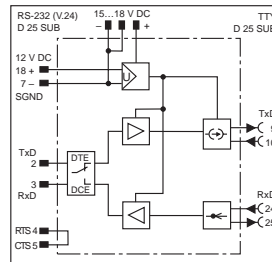
HA module circuit version

Mode: half-active	transm. active	receiver passive
Current output	Pin 9	Pin 25
Current input	Pin 10	Pin 24
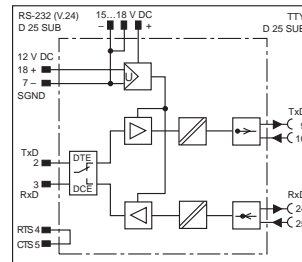
PA module circuit version

Mode: passive	transm. passive	receiver passive
Current output	Pin 9	Pin 24
Current input	Pin 10	Pin 25

8. PSM-V24/TTY… Technical Data

Supply voltage via
- plug-in power supply: 15 V DC … 18 V DC
- D-SUBconnector (RS-232) 12 V DC ± 5 %

Modul version	active	half-active	passive
Nom. current consumption approx.	85 mA	70 mA	35 mA

RS232-(V.24) interface
- Connection: acc. to CCITT V.24/DIN 66259 part 1, D 25-SUB (male) or D 25-SUB (female)

TTY interface	active	half-active	passive
- Loop current	2x20 mA	1x20 mA	
- Load	≤ 400 Ω	≤ 400 Ω	–
- V_{res} (TTY receiver)	≤ 2.75 V	≤ 1.2 V	≤ 2.75 V

- Transmission length: 100 m / 1000 m[2], twisted pair
- Connection: D 25-SUB (female)
- Transmission channels (I/O): 2(1/1), Txd/RxD, full duplex
- Transmission rate: 9.6 kBd, NRZ[1]
- Bit distortion: ≤ 3 % / ≤ 2 %[2]
- Bit delay: ≤1.2 µs / ≤ 1.5 µs[2]

General Data
Operating temperature range: 0 °C to +50° C
Test voltage: 1 kV DC, 1 min.[2]
Electrical isolation: RS-232/TTY [2]
Housing material: ABS / aluminum, anodized[2]

[1] Non Return to Zero Code
[2] with modules with potential separation