RS 232C Connection Cable for COMPACT 5CNC and F1-CNC

The V24 Interface is used with this cable. The machine (COMPACT 5 CNC/F1-CNC) is thus set at 300 baud.

Pin occupancy of the cable (standard) for V24 Interface

COMPACT 5 CNC F1-CNC		25-pin RS 232 plug for peripheral device
Pin B	Transmit →	Pin 3
A	← Receive	2
D	Request to send	5
C	GND	7
H, J	Bow contact	

The only "handshake line" of the COMPACT 5 CNC and F1-CNC is intended for the "request to send" (RTS) signal. The RTS core is connected to pin 5 of the 25-pin plug.
The Interface of the COMPACT 5 CNC/F1-CNC does, however, function without the request to send signal.
(A handshake line is a control line for the data flow. It releases or stops a transmission)

Notes in the event of problems with Interface RS 232C

Since the COMPACT 5 CNC and the F1-CNC do not depend on a handshake line, you can presume that the transmission and reception mode will be carried out (simple design of the Interface on COMPACT 5 CNC and F1-CNC).

Trouble-shooting in the event of problems

1. Check whether the peripheral device actually has a RS 232 Interface. That is a BIT serial Interface and not a BYTE serial, such as Centronics or IEEE 488.

2. Check whether the V24 or 20 mA Interface on the peripheral device is active.

Pin occupancy COMPACT 5 CNC/F1-CNC

Pin occupancy RS 232 Interface:

V24 Interface

Plug Pin	B	Transmit
	A	Receive
	C	GND
	D	Request to send

20 mA Interface

Plug Pin	F	- 20 mA
	G	+ Transmit
	H	- Receive
	J	+ 20 mA

Plug Pin E	Baud rate	open	300 bd.
		to GND	110 bd.

If you use the 20 mA connection, open bow contact H/J and note the baud setting.

3. 110 or 300 baud rate: Check setting on peripheral device and COMPACT 5 CNC or F1-CNC.

   With the EMCO cable, the COMPACT 5 CNC/F1-CNC is set at 300 baud (Pin E not with Pin C - GND - with bow contact).

4. The Interface of data receiver (e.g. printer, PC ...) must be equipped with a buffer memory (due to the lack of handshake signals of the COMPACT 5 CNC/F1-CNC).

5. Check the pin occupancy TRANSMIT and RECEIVE.

   Transmit: From COMPACT 5 CNC/F1-CNC to peripheral device (the peripheral device is the receiver).

   Receive: From the peripheral device to COMPACT 5 CNC/F1-CNC (the peripheral device is the transmitter).

Pin occupancy of the cable:

```
Pin B ——— Transmit ——————————► Pin 3
    A ◄—— Receive ———————————————— 2
    D ——— Request to send ———————— 5
    C ——— GND ———————————————————— 7
    H ]
    J ]  Bow contact

COMPACT 5 CNC            Peripheral device
F1-CNC
```

6. Check whether your peripheral device is operating without the cabling of the handshake line or if the handshake lines must be functionally disconnected (bow contact, DIL-switch, etc.)

7. Transmission from COMPACT 5 CNC/F1-CNC to the peripheral device: the COMPACT 5 CNC/F1-CNC transmits 7 bit ASCII code. The eighth bit is intended as parity bit, which is not, however, transmitted.
   In the event of reception, a parity bit can be transmitted, although it is not required and is disregarded by the COMPACT 5 CNC/F1-CNC.

   At 110 baud, one start bit and two stop bits are transmitted.
   At 300 baud, one start bit and one stop bit are transmitted.

Peripheral device remarks, control lines

The control line connections differ according to the device. Please note the instructions.

- Where the peripheral device requires control lines for operation, the clear to send (Pin 4) can be connected with the request to send (Pin D) of the COMPACT 5 CNC/F1-CNC.
  The second possibility would be, to bow connect Pin 4 and Pin 5.

```
B ------------> 3
A <------------ 2
D ------------- 5 ------- 4 ┐
C ------------- 7
H ┐
J ┘
```

- There are also devices which require the additional signal "Data Terminal Ready". This signal can be generated by bow connection of Pin 6 and 20.

Example of a connection:

4/5 bow connected
6/20 bow connected
C/E bow connected (setting at 110 baud).

```
  B ------ Transmit ---------------------> 3
  A <----- Receive ----------------------- 2
          ( Request to send -------------- 5
          ( Clear to send ---------------- 4
           Data set ready ---------------- 6 ┐
┌ C ------ GND --------------------------- 7 │
│ D                                          │
└ E                                          │
           Data terminal ready ---------- 20 ┘
  H ┐
  J ┘
```