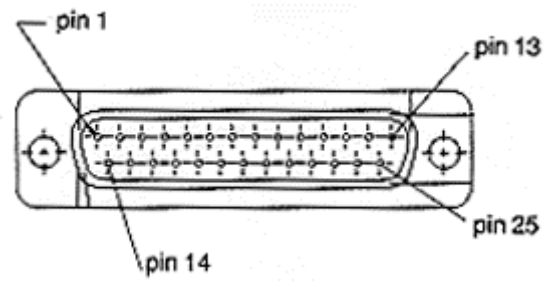
RS 232 Interface of the NT 20

Pin- Assignment of the RS 232- Interface:



Pin	Short.	Name
1.		Protective ground
2.	TxD	Transmitted Data
3.	RxD	Received Data
4.	RTS	Request To Send
5.	CTS	Clear To Send
6.	DSR	Data Send Ready
7	GND	Ground
11.	+ 5V	
20.	DTR	Data Terminal Ready

RS 232 Data set:

The following ASCII data are send periodically from the interface (if e.g. 6 - 12 is stated, it means, that the value can be in the range of 6 to 12).

CRC	= 50948	V 1.2	
PTCK_1	= 6 – 12	PTCT	= 10 – 12
NKORR	= 127 – 129	EVZRG	= 0 – 2
PSTEU	= 127 – 129	PTCK_2	= 6 – 12
U_zwk	= 2 – 10	I_zwk	= 2 – 10
GATE_TIME	= 10400 – 10500	UOFFSET	= 0 – 20
PT_TEMP	= 0	U24V	= 135 – 165
U12V	= 135 – 175	USER	= 145 – 165
TMP_TYPE	= 10	F_STATOR	= 0 – 833
TMP_ZU	= 0	FAILURE	= 0 – 6
OVLD	= 0		

	Explanation of the short names
PTCK_1	Reading PTC at heat sink 1 (high level stage)
NKORR	Pot setting speed fine correction (mid value: 128)
PSTEU	(not active)
U_zwk	intermediate circuit voltage (100 corresponds to 30,66 V)
GATE_TIME	Gate drive (zero crossing in µs)
PT_TEMP	Reading temperature sensor KTY11
U12V	Reading voltage control +12 V
TMP_TYPE	Turbopump Type
TMP_ZU	Operation condition of the TMP (Table below)
OVLD	Overload counter (at 14: condition: error)
V 1.2	Software Version
PTCT	Reading PTC an Transformer
EVZRG	Pot setting Delay Time (0...255 corresponds to 0...5 min.)
PTCK_2	Reading PTC heat sink 2 (rectifier; thyristor)
I_zwk	intermediate circuit current (100 corresponds to 3.55 A)
UOFFSET	
U24V	Reading voltage supervision +24 V
USER	Reading voltage supervision serial interface
F_STATOR	Converter frequency [Hz]
FAILURE	error code (see list below)

Operation condition of the TMP (TMP_ZU):

0:	initialisation
1:	capture _1
2:	capture _2
3:	run up_1
4:	run up_80%
5:	normal operation
6:	Overload_1
7:	Overload_2

Error Code (FAILURE):

LED-Nr.	CODE	
0	0:	no error
1	1:	no pump connected
3	3:	run up time > 10 min.
6	4:	pump too hot or not yet cooled down below limit value
4	5:	speed below 80% of nominal value
2	6:	pump not supported or dip switch setting wrong

DIP-switch settings for NT 20:

Tabelle 4: DIP-Schalter-Einstellungen

TURBOVAC	Kat.-Nr.	DIP-Schalter 1	2	3	4
150, 150 CSV	854 69/70/71/79/80/81, 855 02/03/04/05, 894 10, 895 44	OFF	ON	ON	ON
150 V	856 10/11/12, 894 11	ON	ON	ON	OFF
151	856 30/31/32/35, 894 13	ON	OFF	ON	OFF
360, 360 CSV	854 50/51/56/57/60/61, 855 07/08/09/15, 894 20, 896 67	ON	OFF	ON	ON
360 V	856 20/21/22/23, 894 21	ON	ON	OFF	ON
361	856 70/71/72/73/75/77, 894 23	OFF	OFF	ON	ON
600	856 80/81/82, 894 24/25	OFF	ON	ON	OFF
1000	854 90/91/96/97, 855 35/36/38/39, 894 89/99, 895 89	OFF	OFF	OFF	OFF
1100	894 80*	ON	OFF	OFF	ON

* nur für NT 20, Kat.-Nr. 857 20, ab Fabrikations-Nr. Z96 01221 und für NT 20, Kat.-Nr. 857 21, ab Fabrikations-Nr. Z96 00321

Unzulässige DIP-Einstellungen sind ON ON ON ON, OFF ON OFF ON, ON ON OFF OFF