

This interface description is not binding and may differ depending on the individual application.

1. Digital interface between screwdriver control and higher order control (MMI / Optional)

- Input signals screwdriver control
- Output signals screwdriver control
- Digital I/O connection

1.1 Input signals

1.1.1 Start screwdriver

	Function
Start	eStart

Starts the screwing sequence, if the unit is ready for start.

1.1.2 Selection

	Function	
Selection Bit 0	eProgBit0	PG no. +1
Selection Bit 1	eProgBit1	PG no. +2
Selection Bit 2	eProgBit2	PG no. +4
Selection Bit 3	eProgBit3	PG no. +8

eProgBit0 ... eProgBit3 pre-selects the screwing program for the next screwing cycle in binary form.

A program number < 1 or >15 is invalid.

1.2 Output signals

1.2.1 Fault

	Function
Fault	aStoer

aStoer is switched on when there is a fault on the screwdriver.

As soon as the fault has been eliminated, the output is switched off.

1.2.2 Home position

	Function
Home position	aGst

aGst is switched on when

- The strokes of the screwdriver have reached the pre-defined position in which it is itself at right angles to the workpiece (robot, positioning system) or
- the workpiece can be moved at right angles to the screwdriver (production line with workpiece carriers).

1.2.3 Ready

	Function
Ready	aSb

aSb is switched on when the screwdriver can be started by switching on the customer's input eStart.

1.2.4 OK

	Function
OK	aIO

aIO is switched off as soon as the screwing process is started and switched on again when the screwing process is ended and the screw connection is OK.

1.2.5 NOK

	Function
NOK	aNIO

aNIO is switched off as soon as the screwing process is started and switched on again when the screwing process is ended and the screw connection is NOT OK.

1.2.6 Fill level control

	Function
Fill level control	aFSK

aFSK is switched on when the min. fill level in the feed device goes below the default setting.

2. digital I/O connection

communication with digital customer I/O

2.1 In- and Output signals of the screwdriver control

2.1.1 Plug: Staf14 WITHOUT Selection

Signal	Function	direction		Plug	Pin	description
+24V	Supply KDE	A		0X200/	1	
0V	Gnd KDE			0X200/	2	
Potential free	Supply KDA	E		0X200/	3	control voltage of customer controller
Start	eStart	E		0X200/	4	see section: 1.1.1
	eRes1	E		0X200/	5	
		E		0X200/	6	
		E		0X200/	7	
		E		0X200/	8	
Fault	aStoer	A		0X200/	9	see section: 1.2.1
Home position	aGst	A		0X200/	10	see section: 1.2.2
Ready	aSb	A		0X200/	11	see section: 1.2.3
OK	aIO	A		0X200/	12	see section: 1.2.4
NOK	aNIO	A		0X200/	13	see section: 1.2.5
Fill level control	aFSK	A		0X200/	14	see section: 1.2.6

Table 1: I/O, digital, with plug Staf14 WITHOUT Selection

2.1.2 Plug: Staf14 WITH Selection

Signal	Function	direction		Plug	Pin	description
+24V	Supply KDE	A	□	0X200/	1	
0V	Gnd KDE		□	0X200/	2	
Potential free	Supply KDA	E	□	0X200/	3	control voltage of customer controller
Start	eStart	E	□	0X200/	4	see section: 1.1.1
Selection Bit 0	eProgBit0	E	□	0X200/	5	see section: 1.1.2
Selection Bit 1	eProgBit1	E	□	0X200/	6	
Selection Bit 2	eProgBit2	E	□	0X200/	7	
Selection Bit 3	eProgBit3	E	□	0X200/	8	
Fault	aStoer	A	□	0X200/	9	see section: 1.2.1
Home position	aGst	A	□	0X200/	10	see section: 1.2.2
Ready	aSb	A	□	0X200/	11	see section: 1.2.3
OK	aIO	A	□	0X200/	12	see section: 1.2.4
NOK	aNIO	A	□	0X200/	13	see section: 1.2.5
Fill level control	aFSK	A	□	0X200/	14	see section: 1.2.6

Table 2: I/O, digital, with plug Staf14 WITH Selection

2.1.3 Plug: Staf20

Signal	Function	direction		Plug	Pin	description
+24V	Supply KDE	A	□	0X200/	1	
0V	Gnd KDE		□	0X200/	2	
Potential free	Supply KDA	E	□	0X200/	3	control voltage of customer controller
Start	eStart	E	□	0X200/	4	see section: 1.1.1
	eRes1	E	□	0X200/	5	
Selection Bit 0	eProgBit0	E	□	0X200/	6	see section: 1.1.2
Selection Bit 1	eProgBit1	E	□	0X200/	7	
Selection Bit 2	eProgBit2	E	□	0X200/	8	
Selection Bit 3	eProgBit3	E	□	0X200/	9	
	eRes2	E	□	0X200/	10	
	eRes3	E	□	0X200/	11	
Fault	aStoer	A	□	0X200/	12	see section: 1.2.1
Home position	aGst	A	□	0X200/	13	see section: 1.2.2
Ready	aSb	A	□	0X200/	14	see section: 1.2.3
OK	aIO	A	□	0X200/	15	see section: 1.2.4
NOK	aNIO	A	□	0X200/	16	see section: 1.2.5
	aRes1	A	□	0X200/	17	
	aRes2	A	□	0X200/	18	
	aRes3	A	□	0X200/	19	
Fill level control	aFSK	A	□	0X200/	20	see section: 1.2.6

Table 3: I/O, digital, with plug Staf20

3. List of table

Table 1:	I/O, digital, with plug Staf14 WITHOUT Selection	3
Table 2:	I/O, digital, with plug Staf14 WITH Selection	3
Table 3:	I/O, digital, with plug Staf20	3

4. List of contents

1. DIGITAL INTERFACE BETWEEN SCREWDRIVER CONTROL AND HIGHER ORDER CONTROL (MMI / OPTIONAL)	1
1.1 INPUT SIGNALS	1
1.1.1 Start screwdriver	1
1.1.2 Selection	1
1.2 OUTPUT SIGNALS	1
1.2.1 Fault	1
1.2.2 Home position	1
1.2.3 Ready	2
1.2.4 OK	2
1.2.5 NOK	2
1.2.6 Fill level control	2
2. DIGITAL I/O CONNECTION	2
2.1 IN- AND OUTPUT SIGNALS OF THE SCREWDRIVER CONTROL	2
2.1.1 Plug: Staf14 WITHOUT Selection	2
2.1.2 Plug: Staf14 WITH Selection	3
2.1.3 Plug: Staf20	3
3. LIST OF TABLE	4
4. LIST OF CONTENTS	4