



HEIDENHAIN SE 660

TRANSMITTER-RECEIVER UNIT

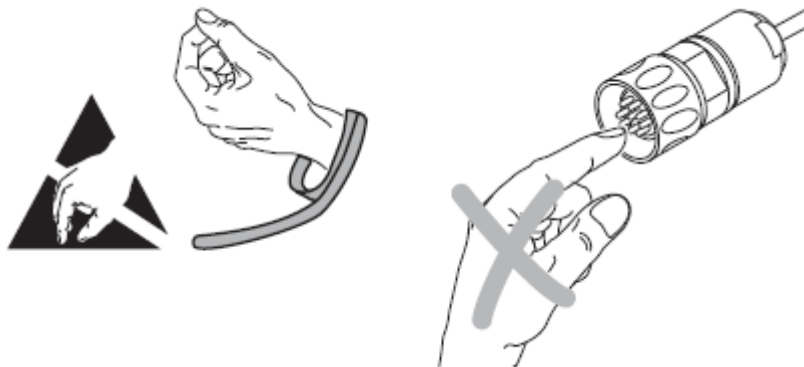
ID 744719-01
ID 744719-02
ID 744719-11

OPERATING INSTRUCTIONS

TARTALOMJEGYZÉK

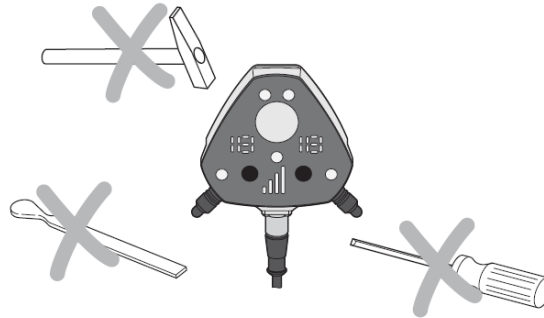
WARNINGS	3
APPROVAL FOR RADIO TRANSMISSION	4
DIMENSIONS	4
MOUNTING	5
OPERATING MODE	5
DISPLAYS	6
OPERATION	7
SETTING THE MODE.....	8
SETTING THE CHANNEL	8
PAIRING DURING RADIO OPERATION	9
CONNECTING SEVERAL TS 460/TT 460 WITH ID 744719-02	10
PIN LAYOUT	10
SPECIFICATIONS	11
STATUS OF SELECTION LINE.....	13

WARNINGS



Note: Mounting and commissioning is to be conducted by a qualified specialist under compliance with local safety regulations.

Do not drop the SE.



Provide power to position encoders only from PELV systems (EN 50178).

Provide high-frequency grounding with low impedance (EMC chapter in EN 60204-1).

If HEIDENHAIN encoders are to be operated in accordance with DIN EN 61 010-1, power must be supplied from a secondary circuit with current or power limitation as per DIN EN 61 010-1:2011-07, section 9.4 or DIN EN 60 950-1:2011-01, section 2.5 or a Class 2 secondary circuit as specified in UL1310..

APPROVAL FOR RADIO TRANSMISSION

For operation in radio mode

DR. JOHANNES HEIDENHAIN GmbH hereby declares that the SE660 transmitter/receiver unit is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EV.

The EC Declaration of Conformity can be requested from:

DR. JOHANNES HEIDENHAIN GmbH

Dr.-Johannes-Heidenhain-Straße 5


83301 Traunreut, Németország

or www.heidenhain.de

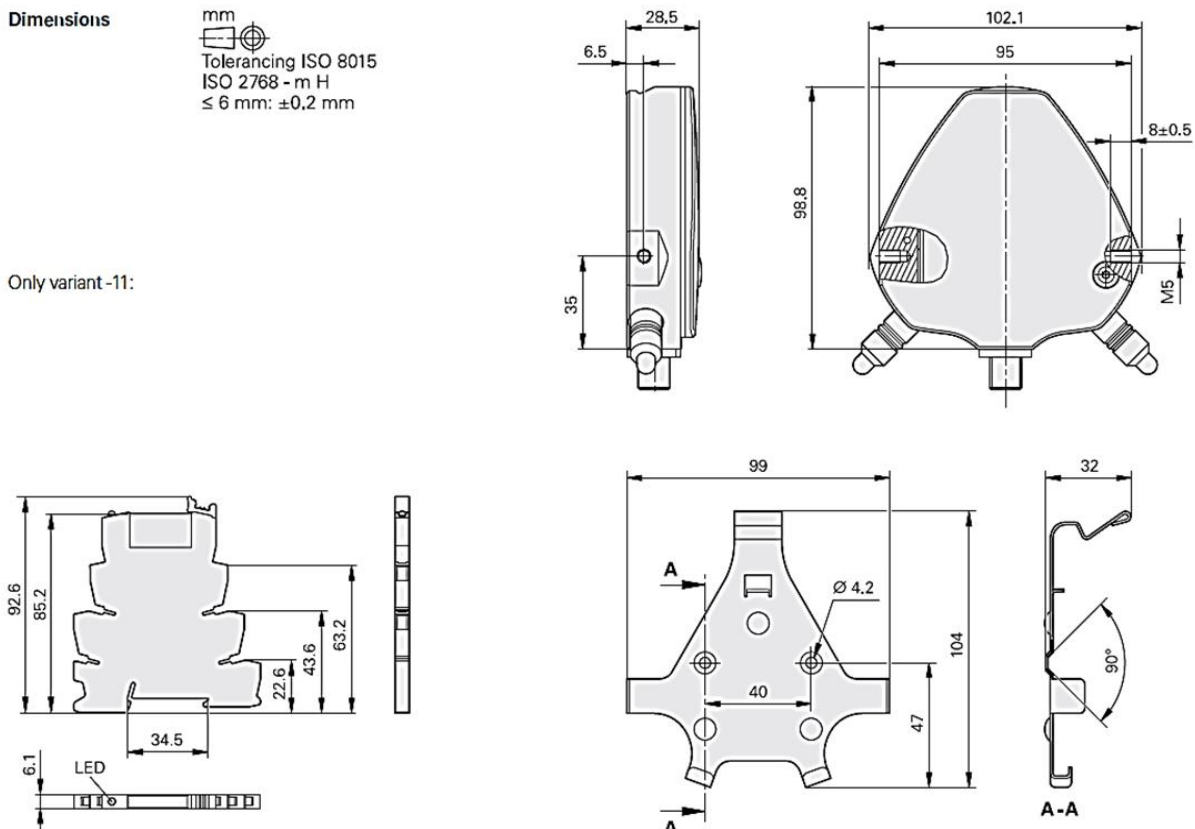
DIMENSIONS

Dimensions of the unit are illustrated in the following figure.

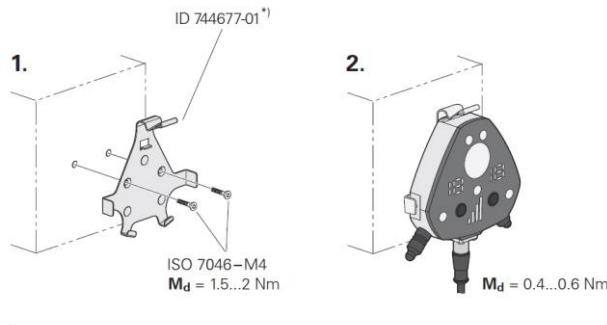
Dimensions

mm

 Tolerancing ISO 8015
 ISO 2768 - m H
 ≤ 6 mm: ±0,2 mm

Only variant -11:

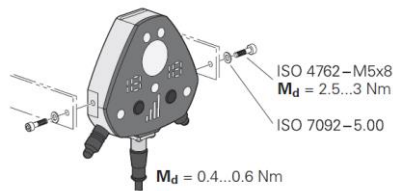


MOUNTING

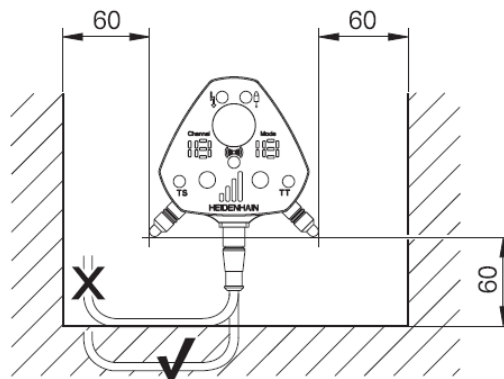


Screw on cable connection with torque adapter* ID 1037830-01


* To be ordered separately.



Minimum distance from metallic surfaces is shown in the following figure.



OPERATING MODE

Mode	Activation	Transmission	Touch probe		Pairing necessary
1*	IR ¹	IR	TS 460/ TT 460 ³	1	-
2	RF ²	RF	TS 460/ TT 460	2	+
12	RF	IR	TS 460/ TT 460	2	+
4	Shank switch	IR	TS 642		-

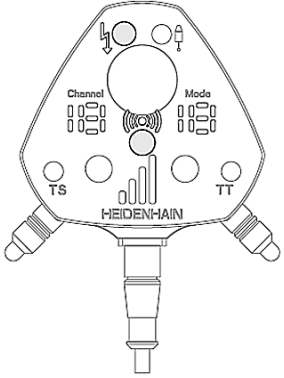



* – Shipping condition; 1 – Infrared; 2 – Radio; 3 – also TS 642, TS 649, TT 449



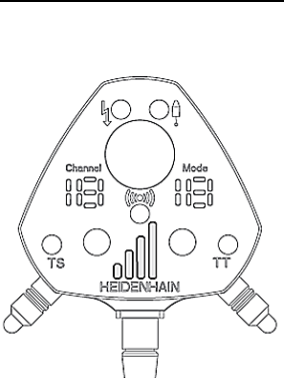
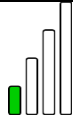

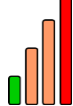
CAUTION! Conduct electronic re-entering after switching between IR and RF modes.

DISPLAYS

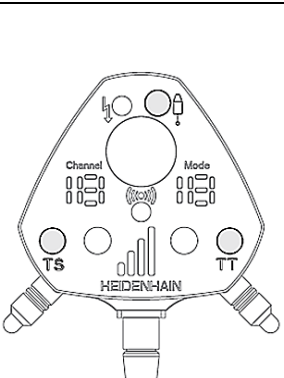




Signal quality IR (📡) / RF (📶)

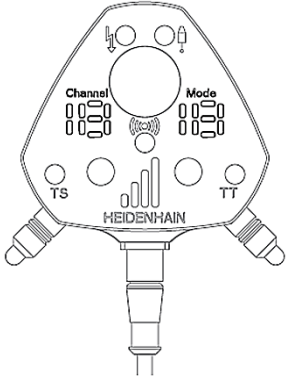





	 green	Correct
	 orange	Acceptable
	 red	Not acceptable

Channel load / assignment

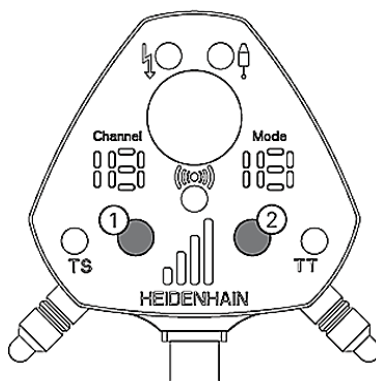
	 green	Channel free, optimum
	 orange	Channel partially assigned, acceptable
	 red	Channel fully assigned, not recommended



Condition of TS, TT or output (📡)

	 green	Touch probe ready, stylus at position of rest
	 orange	Touch probe ready and stylus deflected / switching signal active (output)
	 red	Battery warning, change the battery
		Touch probe not ready / Output not active

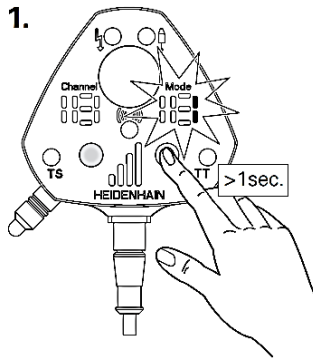
		Display	Meaning
		Slow blinking	Connecting (Connect)
		Shining	Connected (Connect)
		Fast blinking	Error (Error)
		Shining	Delete pairings (Clear)
		Shining	Collision

OPERATION

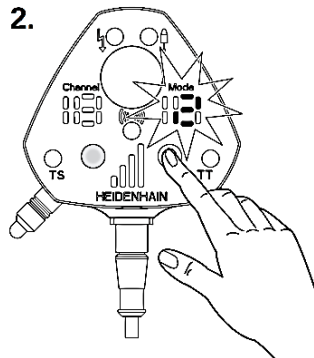


	Duration	“Channel” button①	“Mode” button②	Both buttons
Tap	< 1 s	 Briefly on Next channel	Next mode or slot number (-02)	–
Press and hold	> 1 s	Save / Enable change of channel	Apply / Release change of mode or slot number (-02)	Pair
	> 5 s	 Continuously on/off	–	–
	> 10 s (-01) > 5 s (-02, -11)	–	–	Delete pairings

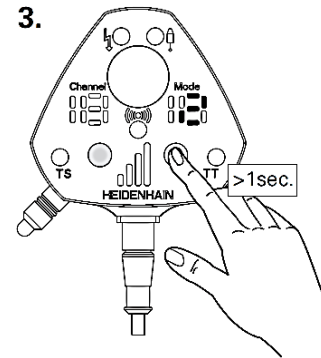
SETTING THE MODE



Press for more than 1 second until the “Mode” display blinks.

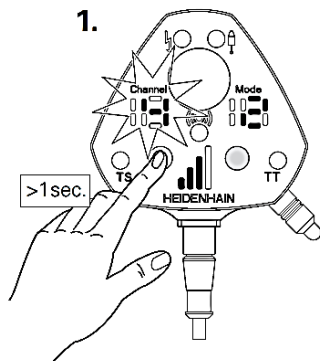


Tap until desired mode appears.

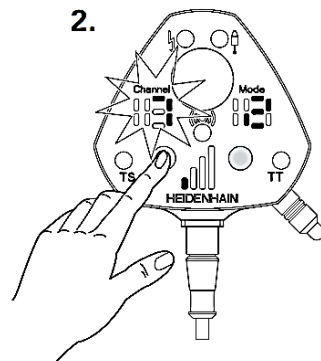


Press for more than 1 second until it stops blinking. Mode is saved.

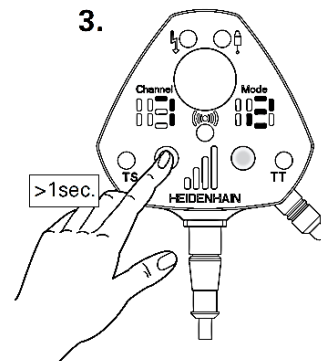
SETTING THE CHANNEL



Press for more than 1 second until the “Channel” display blinks.



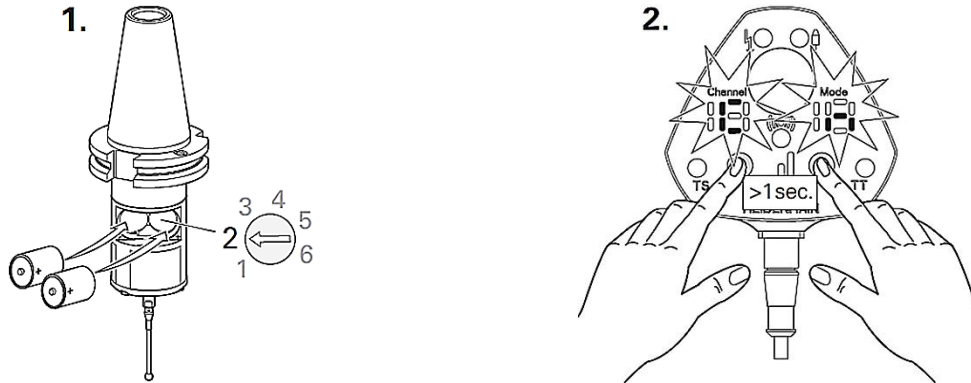
to find the optimum channel. See table on page 6..



Press for more than 1 second until it stops blinking. Channel is saved.

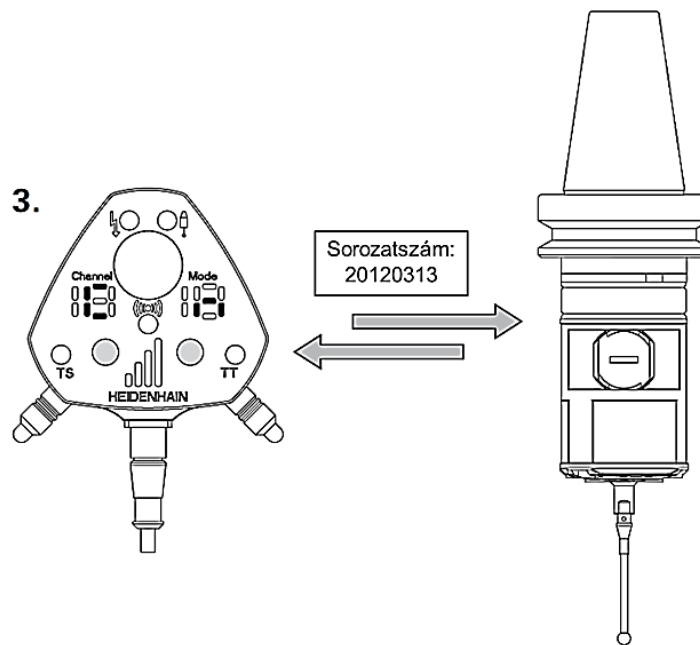
PAIRING DURING RADIO OPERATION

For SE 660 ID 744719-02, proceed as described on page 10.



Set the touch probe to radio mode, insert batteries, and close. See the respective mounting instructions.

Press both buttons until **Cn** blinks.



The units connect themselves automatically. **Cn** shines to show that the connection was successful.

Duration: approx. 1 second. Only necessary for initial operation

CONNECTING SEVERAL TS 460/TT 460 WITH ID 744719-02

	①	②	③	④	⑤
TS/TT Nr. 1					
TS/TT Nr. 2					
TS/TT Nr. 3-4		...			

①	Press both buttons until Cn is displayed.
②	Tap “Mode” button to change the slot being displayed.
③	Press “Mode” button until Cn blinks.
④	Close TS/TT.
⑤	The units connect themselves automatically. When the Cn display disappears (3 sec.), the units are connected. TS/TT can be started. The additional information “nx” is displayed for 10 seconds. (x = slot number)

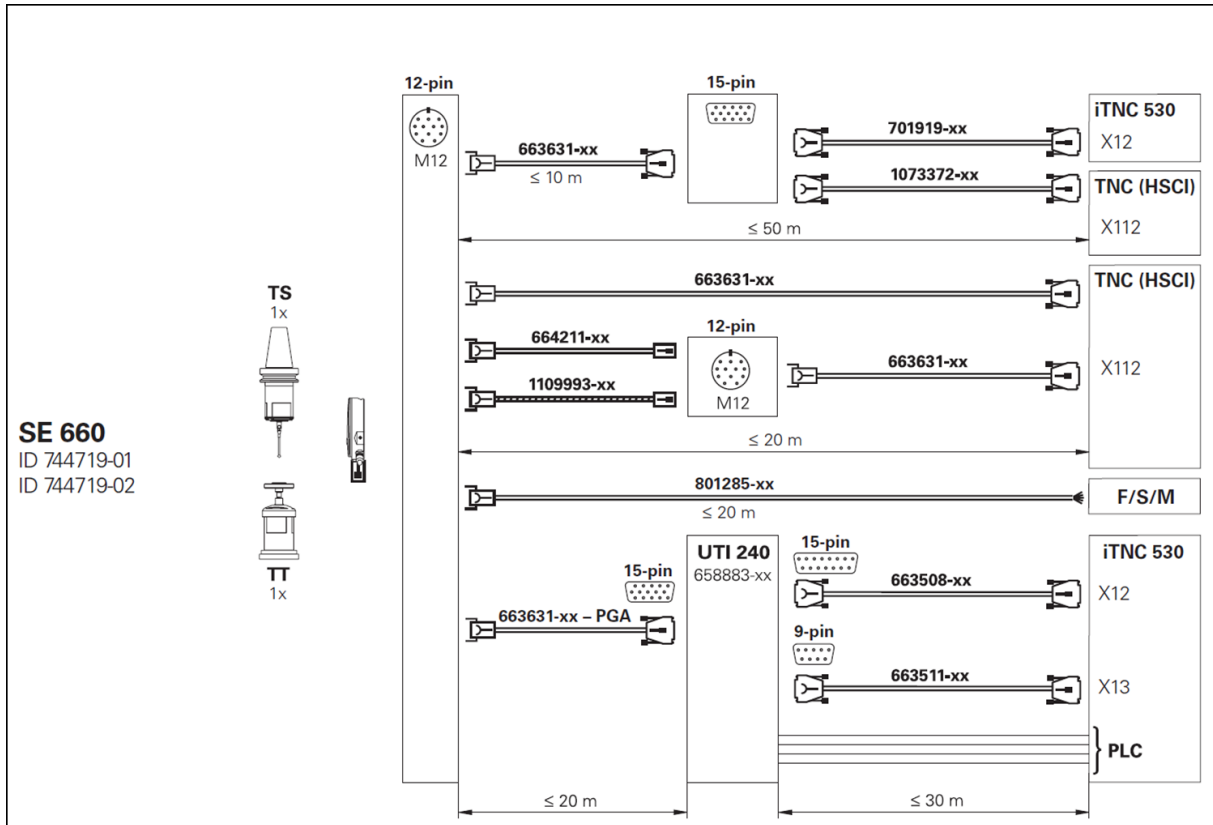
PIN LAYOUT

		1	12	11	5	2	10	3	4	6	9	7	8
-01 -11		U _p	0V	R(TS)	R(TT)	B(TS)	B(TT)	S	\bar{S}	\bar{W} W	/	/	/
-02		U _p	0V	R(TS)	R(TT)	B(TS)	B(TT)	S	\bar{S}	\bar{W}	/	A0	A1
		BNGN	WHGN	BU	WH	GN	BN	GY	PK	VT	YE	RD	BK

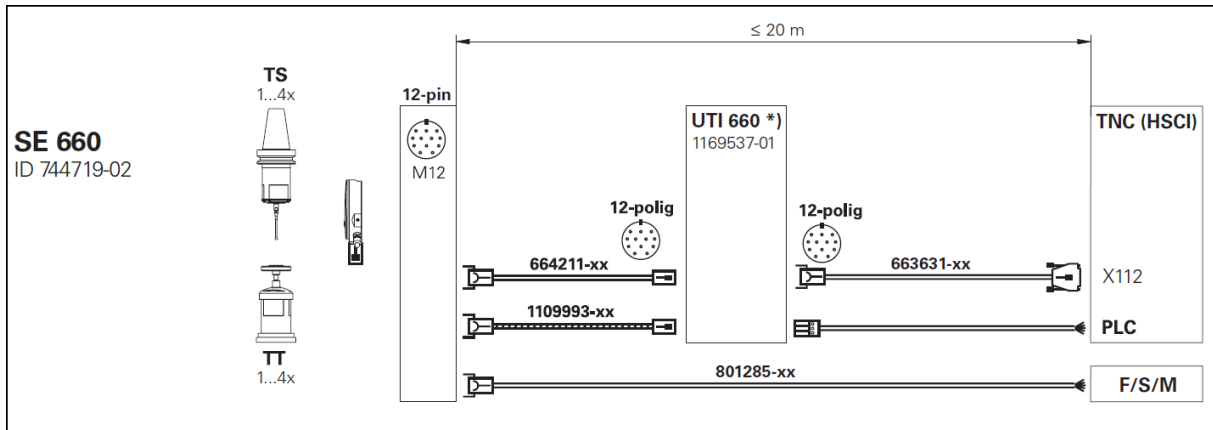
R	Start signal	B	Ready signal
S, \bar{S}	Trigger signal	A	Selection
W, \bar{W}	Battery warning	-11	Trigger signal gated with respective ready signal (TS or TT)

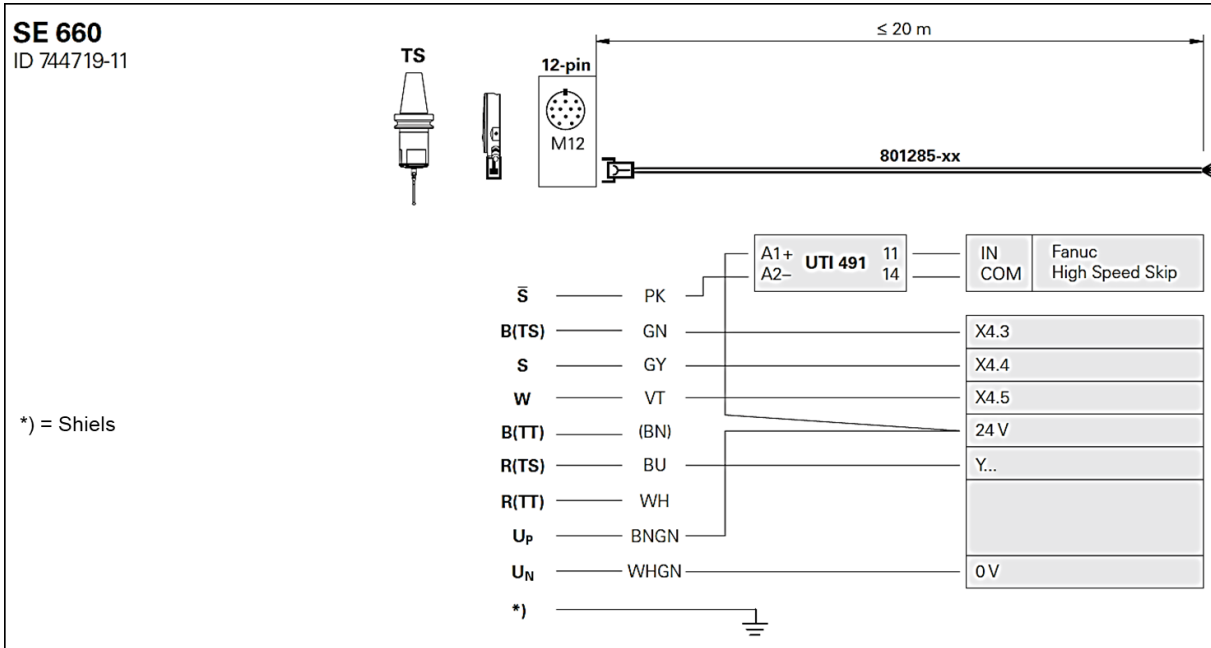
Vacant pins or wires must not be used!

SPECIFICATIONS



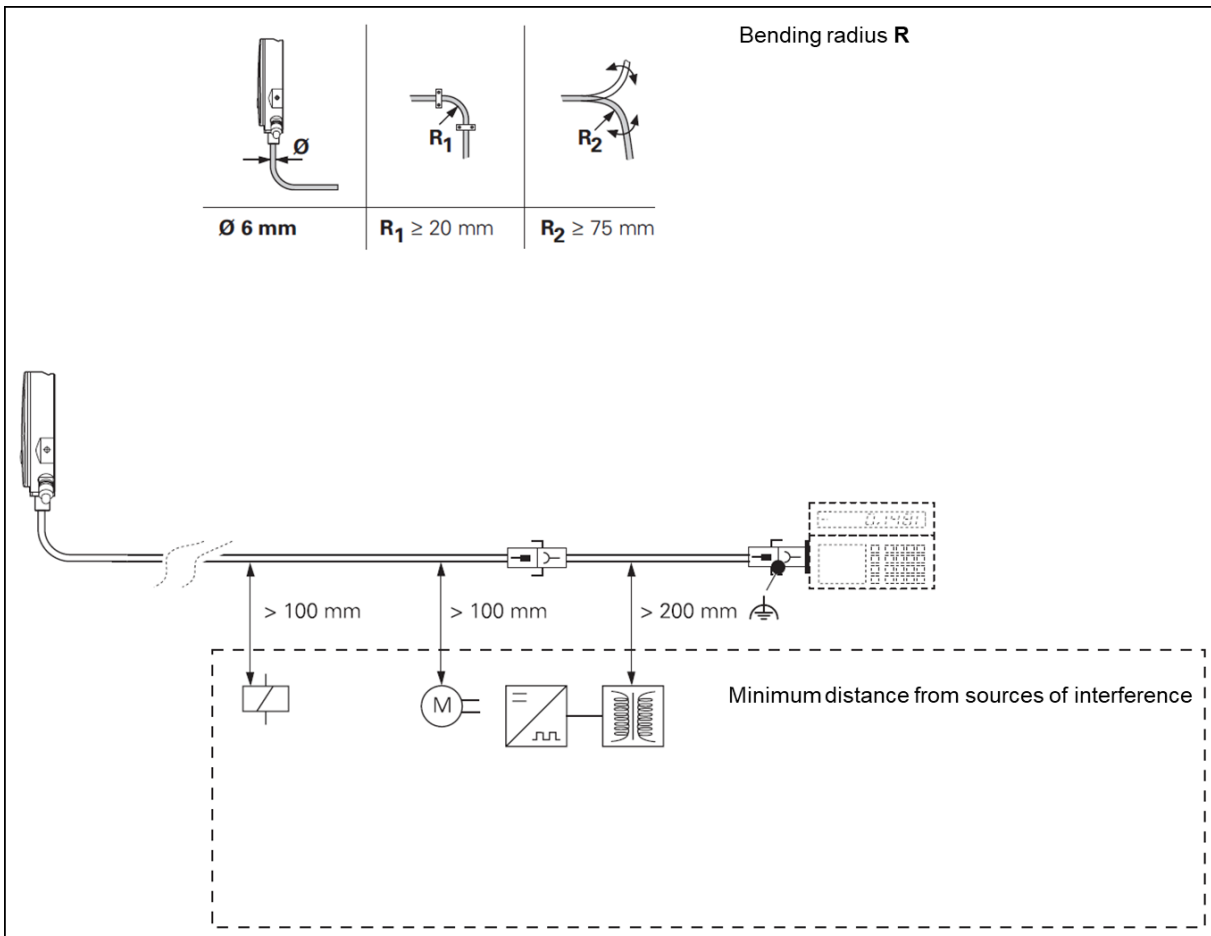
* Optional; only for connection of several TS 460 / TT 460 in radio mode





Typical configuration for Fanuc CNC. Machine must be prepared accordingly.


Depending on the type of control, check whether the required inputs and outputs are available.



STATUS OF SELECTION LINE

ID 744719-02

Status of selection line		Display of slot number	Selection	
A1	A0		TS	TT
0V	0V	1	TS#1	TT#1
0V	U _p	2	TS#2	TT#2
U _p	0V	3	TS#3	TT#3
U _p	U _p	4	TS#4	TT#4

 Standard when selection line is open