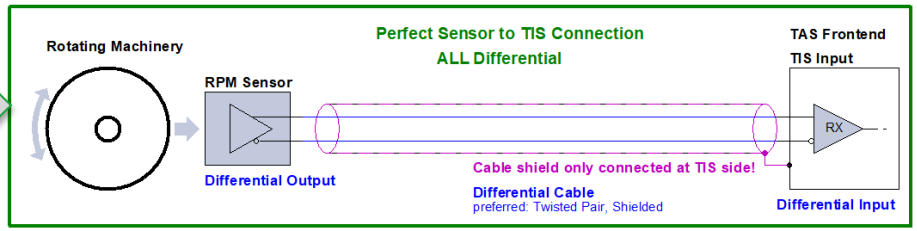
Connecting Single-Ended RPM Speed Encoders to Discom TAS Box

This applies to proximity probes, photoelectric sensors, HBM T210 torque transducer, and other encoders providing a simple voltage pulse signal

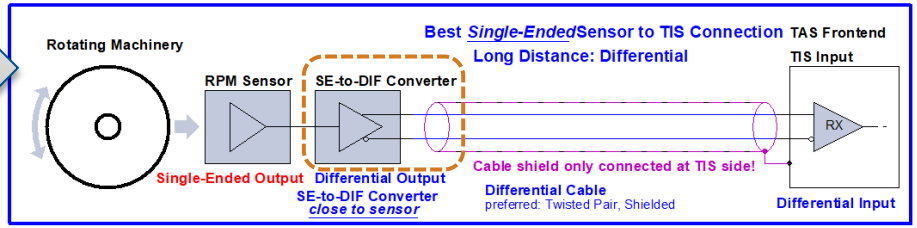
What if I don‘t have a differential signal?

If a differential pair of speed pulse signals is not available,
use a **Single Ended to Differential converter** as close to the encoder as possible (**< 30cm**).

Standard



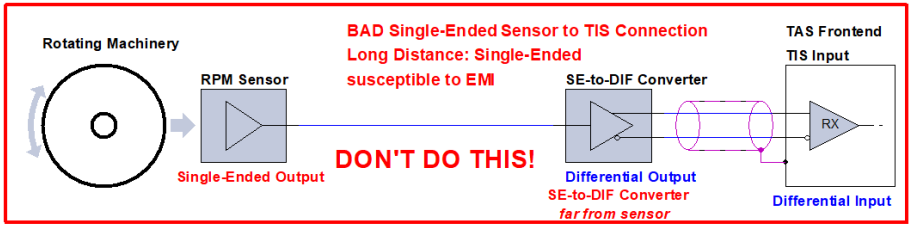
With Converter

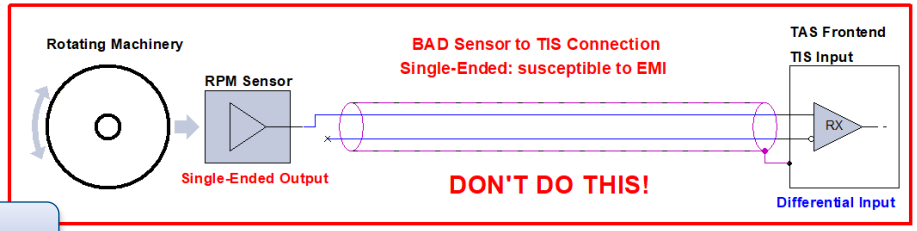


A Single Ended to Differential converter has to be used if the rpm speed encoder generates only one pulse signal (called a “single ended” signal).

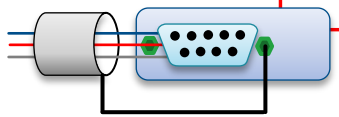
The product of company LEG depicted here is meant as an example. You can use other products as well.

One example for such an encoder is the HBM T210 transducer, another is a proximity probe (see next pages).





Connect *shield of TIS cable* on Tas Box side only to Tas Box ground.

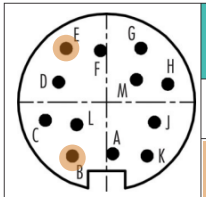


HBM Torque Transducer T210

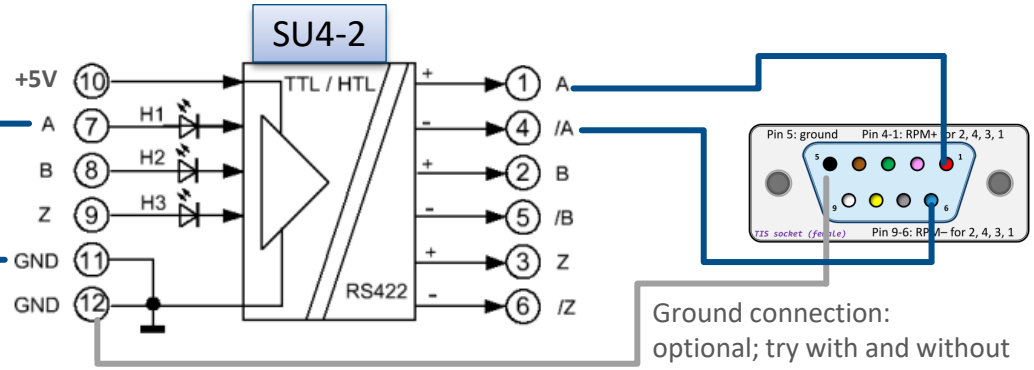
The small HBM T210 torque transducers do not have a differential output for speed pulses, only a single ended pulse output.

Therefore, you have to use a signal converter as explained on the previous page.

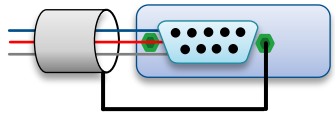
Place the signal converter as close to the torque transducer as possible (less than 30 cm). Use shielded twisted pair cable from signal converter to TIS input.



Pin	Assignment	Wire color	Trigger control signal (without VK20A)
A	Torque measurement signal (frequency output; 5 V)[1) 2)]	bk	
B	Rotational speed/angle of rotation measurement signal A; 5 V	rd	
C	Torque measurement signal ±10 V	br	
D	Torque measurement signal 0 V	wh	
E	Ground (supply+rotational speed/angle of rotation)	ye	
F	Supply voltage 10 V … 30 V	vt	Switch (NO)
G	Rotational speed/angle of rotation measurement signal B; 5 V; lagging by 90°	gn	
H	Rotational speed reference signal Z; 5 V	pk	
J	Measurement signal - ready for measurement	gr	
K	Control signal triggering	gy/pk	
L	Torque measurement signal (frequency output; 5V)[1), 2)]	bl/rd	
M	Not in use	bl	



BNC cable to Tas Box front input (see page 4)



Connect *shield of TIS cable* on Tas Box side only to Tas Box ground.

SU4 wiring with proximity probe

Technische Daten

Hilfsenergie:

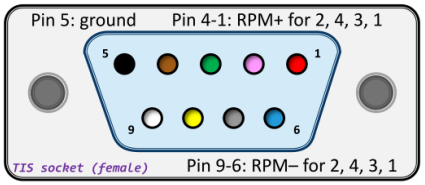
Versorgungsspannung	:	19,2…30VDC
Leistungsaufnahme	:	< 1,5VA

Eingänge:

			Schaltpegel:	Low	High
SU4-1	:	18…30VDC,	2,8…6,5mA	< 5V	> 18V
SU4-2	:	3,5…6,5VDC,	0,5...1mA	< 1V	> 3,5V

Ausgänge:

RS422	:	3 Stück
Übertragungsfrequenz	:	1MHz
Signallaufzeit	:	ON <125ns OFF <75ns
Busabschluß	:	nicht im Lieferumfang, 120Ω



TIS channel	pin
A.0.1	1 / 6
A.0.2	4 / 9
A.0.3	2 / 7
A.0.4	3 / 8

5	(gound)

RS422 differential input signals
TTL-signal as twisted pair lines