

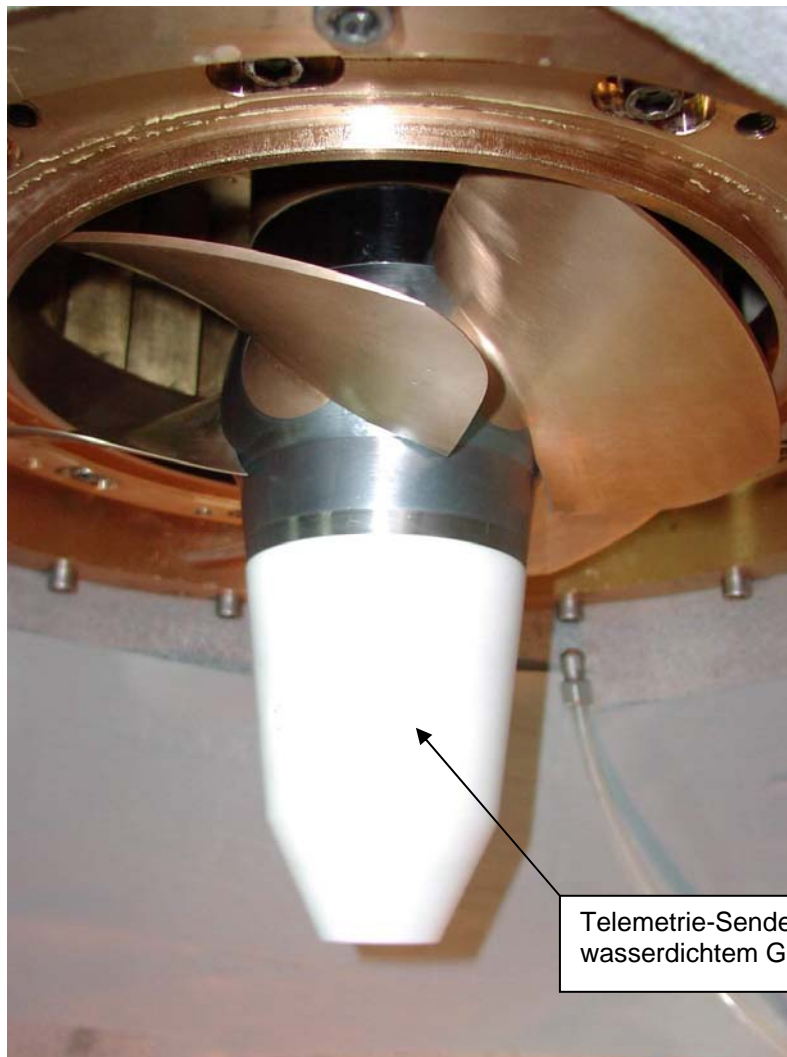
MT32-4CH-Rotate

Telemetrie für Wasserturbine

4-Kanal Telemetrie, zur berührungslosen Signalübertragung von vier DMS-Sensoren auf den Schaufeln einer Wasserturbine

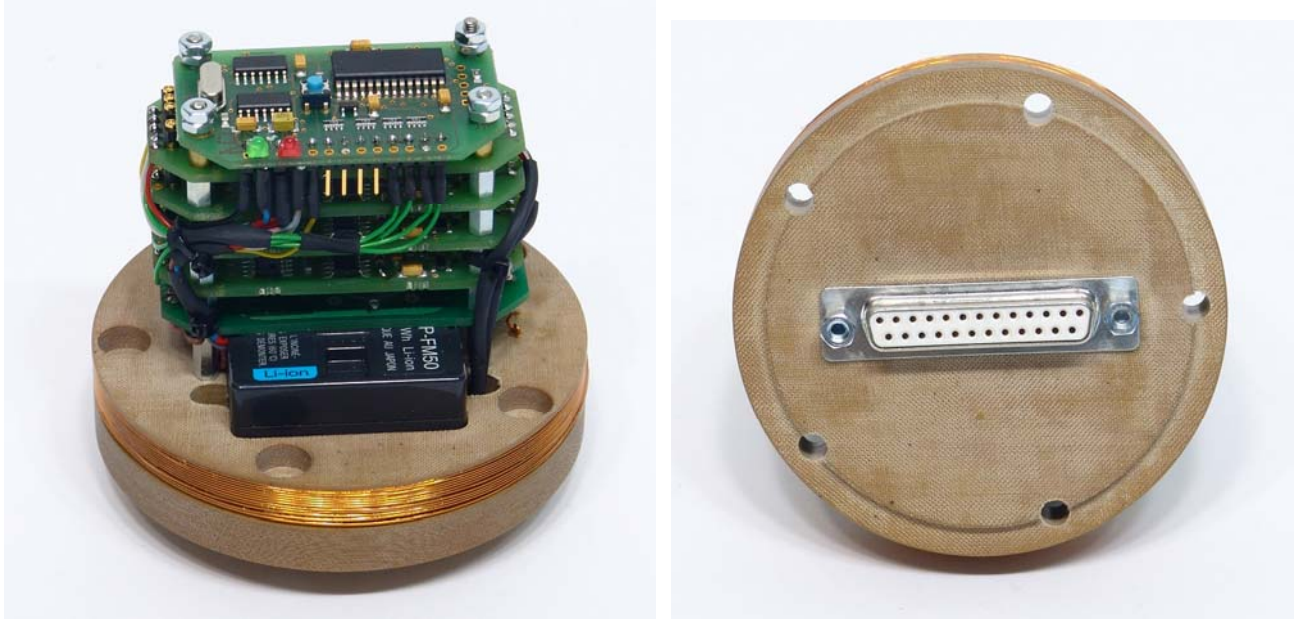
Zur Messung von Kräften an den Schaufeln einer Wasserturbine verwendet Voith-Siemens eine 4-Kanal Telemetrie mit induktiver Signalübertragung. Der Vorteil der induktiven Datenübertragung besteht in der Realisierung sehr **hoher Übertragungsgeschwindigkeiten** und der **störungsfreien Signalübertragung** durch das **umgebende Wasser**. Der digitale Datenfluss beträgt 1,28 Mbit/s, so dass Vibrationen und sonstige schnelle Signaländerungen mit einer analogen Bandbreite von bis zu 6kHz/Kanal zeitgleich erfasst und übertragen werden.

Die wasserdicht auf der Nabe installierte Telemetrie wird von einem Li-Ion Akku versorgt, Betriebszeit ca. 10 Stunden. Der Ausgang des stationären Decoders liefert die verstärkten DMS-Signale im Bereich von +/-5V.



Telemetrie-Sender in wasserdichtem Gehäuse

Transmitter Device (Encoder)



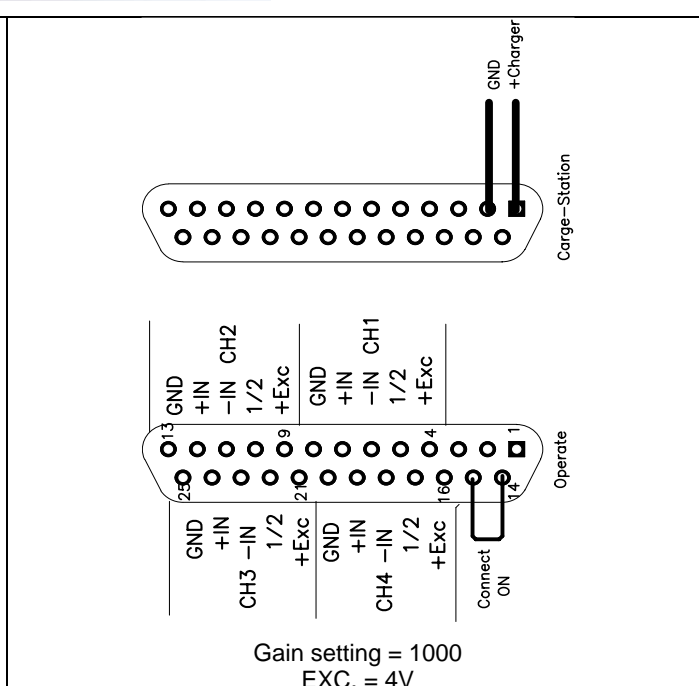
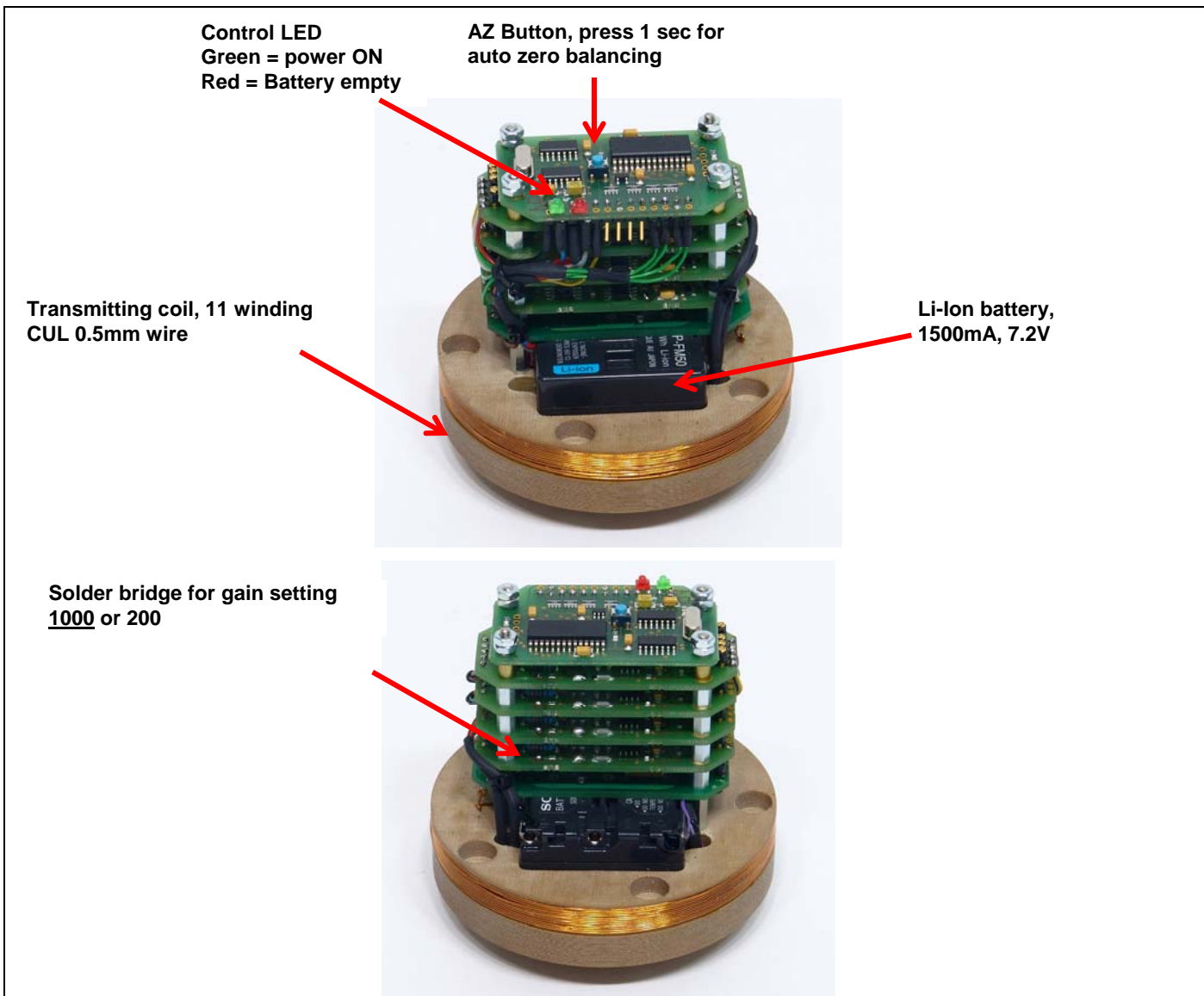
MT32-ENC4 with 4x MT-STG modules

SC Module STG:

Sensor:	strain gage, ≥ 350 Ohms
Bridge completion:	full and half -bridge
Excitation:	4 VDC (fixed), short-circuit protection up to 20mA
Gain:	200 or 1000 (factory setting) - selectable by solder jumpers
Offset	Zero adjustment by Auto-zero function (which is not lost by power-off), offset range up to 80% of full scale.

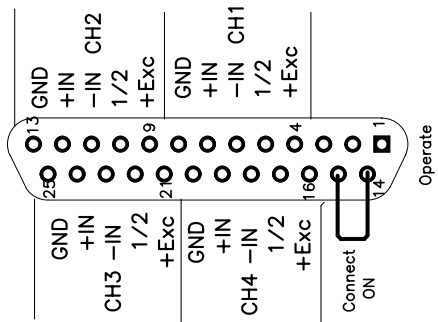
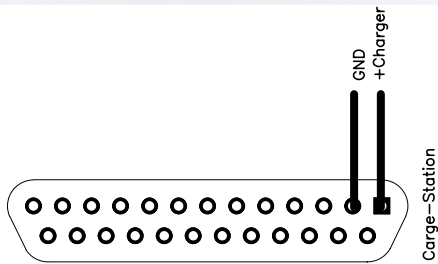
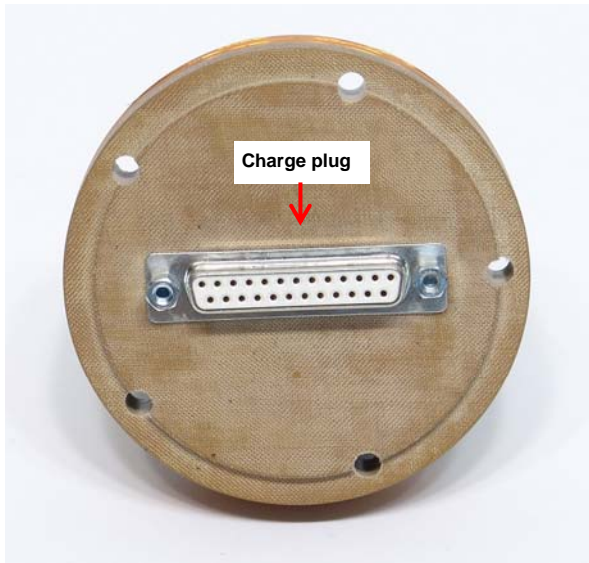
System Parameters:

Channels:	4
Resolution:	12 bit A/D converter with anti aliasing filter, simultaneous sampling of all channels
Transmission:	inductive transmission
Powering:	Li Ion Accumulator 7.2V, 1500mA, capacity for 10 hours
Analog signal bandwidth:	(-3dB cut-off frequency) 4 x 0 ... 6000Hz with <u>1280 kbit/s</u>
Dimensions:	Diameter 80mm, height 80mm
Weight:	0.26 kg without cables
Transmission:	Digital PCM Miller format - FSK
Operating temperature:	- 20 ... +70°C
Static acceleration:	100g in all directions
Shock:	200g in all directions



Li Ion Re-Chargeable Battery with Charger Unit for MT32-Rotate

Pin connection



Control LED
Green = power ON
Red = Battery empty



Battery charger MT-Charger

1. Plug the 25-pole Sub-D female connector of the MT32-ENC4 on the charger 25-pole Sub-D male connector
2. Plug banana plugs on to a battery or AC/DC power supply with a voltage range of 10-30
3. Press and hold the switch for 1 second to begin charging. The battery will now charge. Charge time 2-3 hours, if the red LED of the Charger is dark!

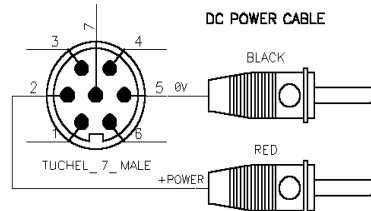
Technical data:
Receiving Unit MT32-Rotate DEC (Decoder)



Front view

BNC socket for analog signal outputs 1 ... 4

7- pole TUCHEL-socket for Voltage supply cable (10–30V)



4- pole TUCHEL-socket for Pickup

ON/OFF - LED

ON/OFF - switch

Sync indicator
(Error transmission)
Bright ON = error



Back view

System Parameters:

Channel:	4 analog outputs via (BNC) +/-5V
Resolution:	12 bit D/A converter, with smoothing filter
Dynamic:	72dB
Power supply input:	10-30 VDC
Current consumption:	300mA at 10V, 100mA at 30V
Analog signal bandwidth:	(-3dB cut-off frequency)
4-channel version	4 x 0 ... 6000Hz with <u>1280 kbit/s inductive transmission</u>
Dimensions:	205 x 105 x 65mm
Weight:	1.00 kg without cables and antenna
Overall system accuracy between encoder input and decoder output:	+/-0.25% without sensor influences
<u>Environmental</u>	
Operating:	-20 ... +70°C
Humidity:	20 ... 80% not condensing
Vibration:	5g Mil Standard 810C, Curve C
Static acceleration:	10g in all directions
Shock:	100g in all directions

Set includes:

