

Incremental Encoder Yaskawa UTOPH-81AWF

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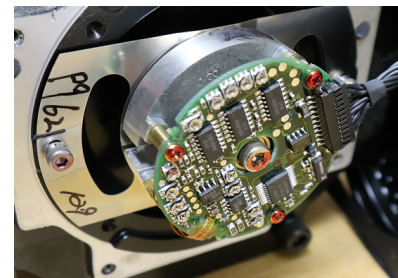
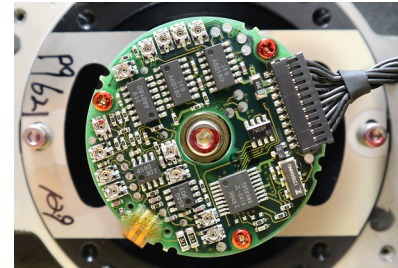
All data in this datasheet was measured by the following components

Servomotor SGMG-09A2AAS
Encoder UTOPH-81AWF
Servopack SGDA-08VS
Oszilloscope Micsig STO1104E
Differenzial Probe Micsig DC10013 for (Phase A, B)

Measurements by 100 RPM forward direction (CCW)

There is no warranty for this information.

Use this document at your own risk.



Specifications and Ratings

Item	Value	Unit
Power supply voltage	5	V DC
Current consumption	150 - 170	mA
Output phases (differential mode)	PA, PB, PC	
Resolution	8192	

Output Signals

CH1 (yellow)	Phase A
CH2 (cyan)	Phase B
CH3 (magenta)	Phase C



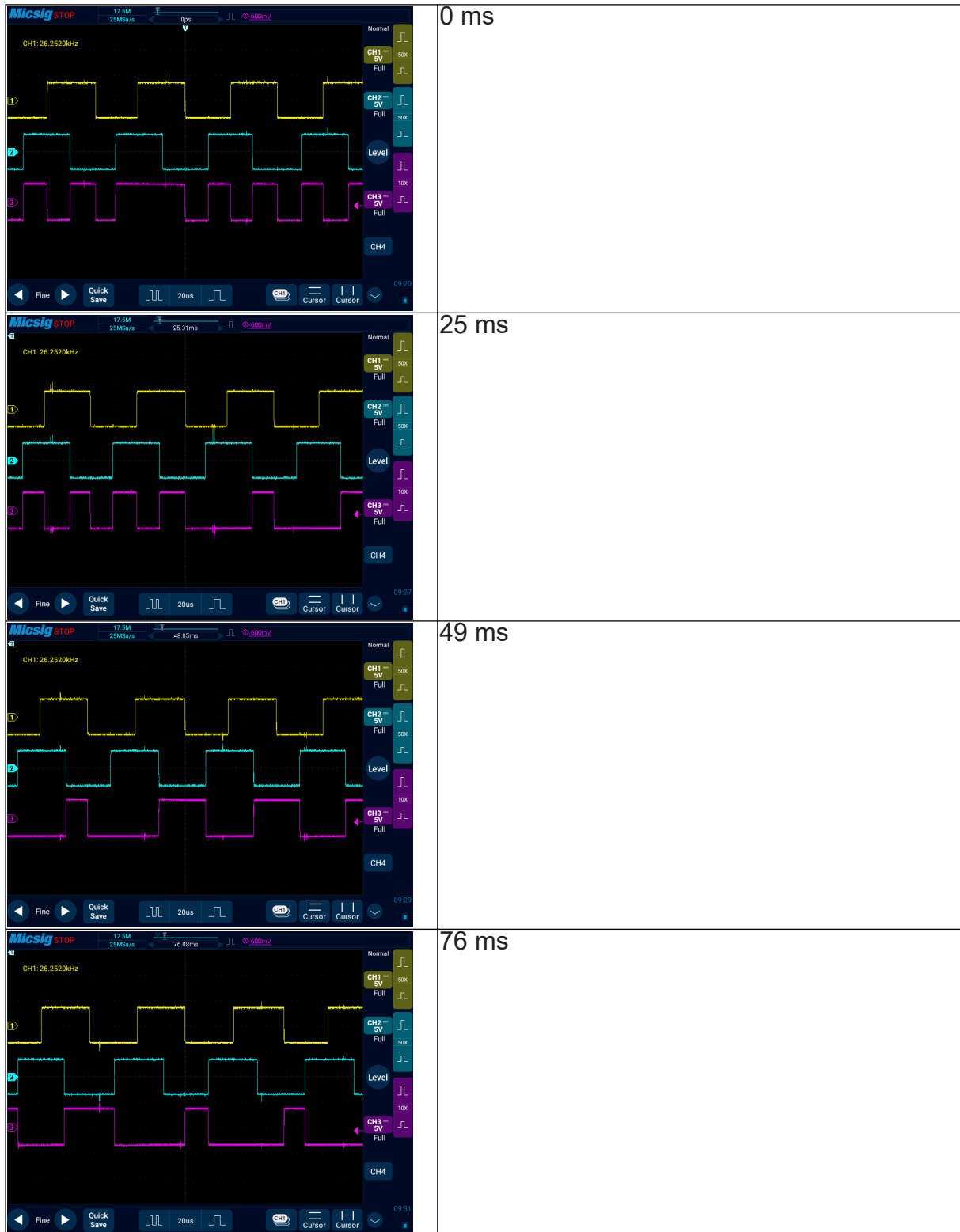
Phase A and B duty cycle about 50%. In the above Diagramm about 36 μ s by 100 RPM

Phase C shows a 55 μ s high pulse each full rotation. That are 75% of a full cycle from phase A or B.

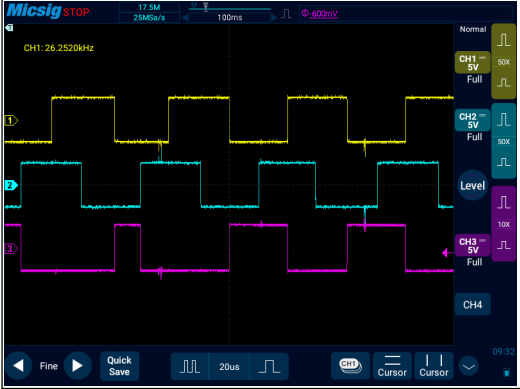
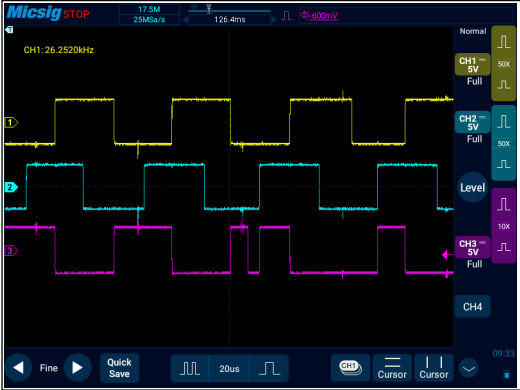
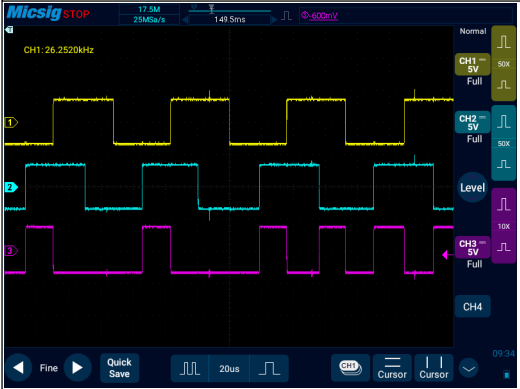
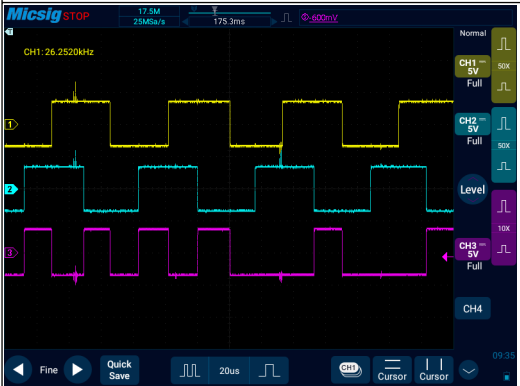
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Phase C represents 24 different areas and 2 additional markers.

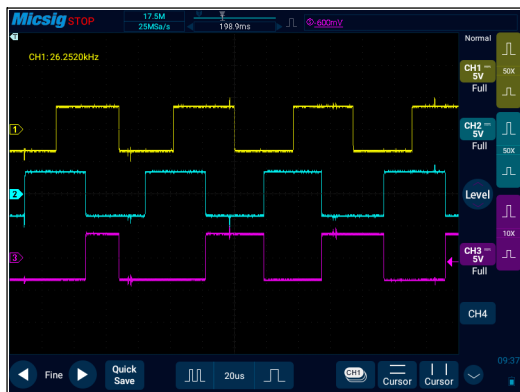
The following screenshot shows all these areas. Timecode is for orientation only.



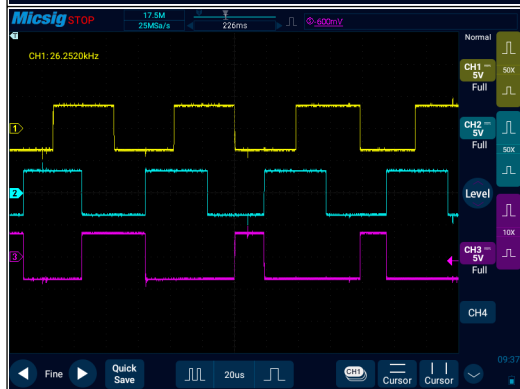
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	100 ms
	126 ms Marker 1
	149 ms
	176 ms

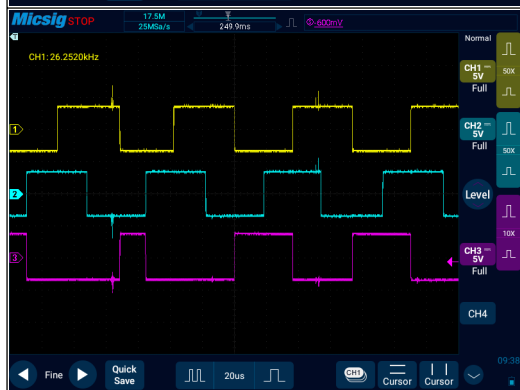
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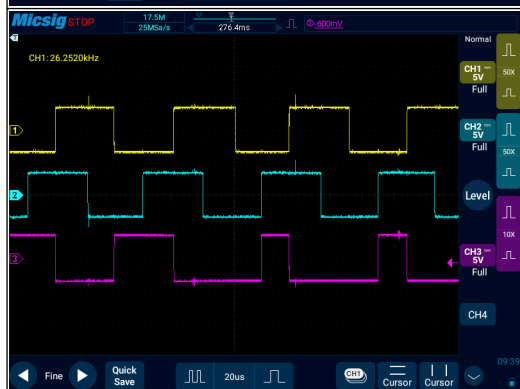
199 ms



226 ms

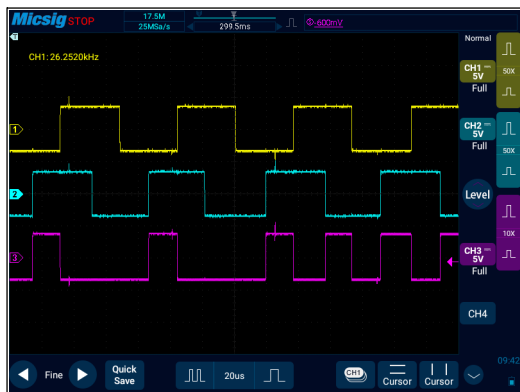


250 ms

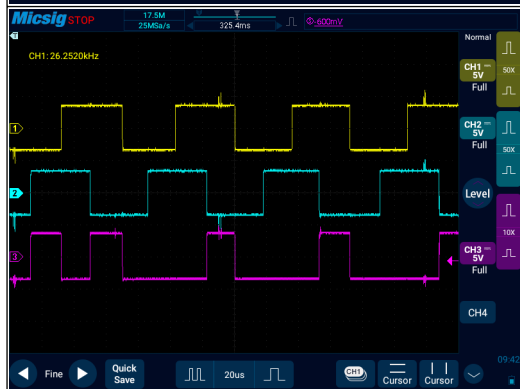


276 ms

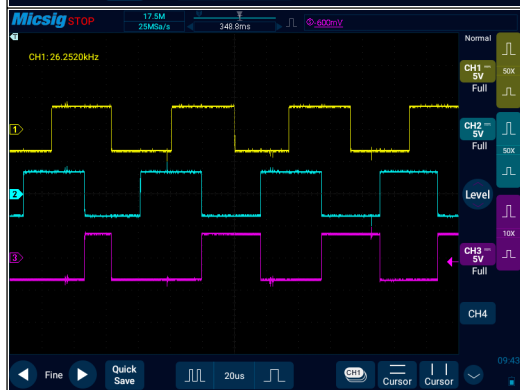
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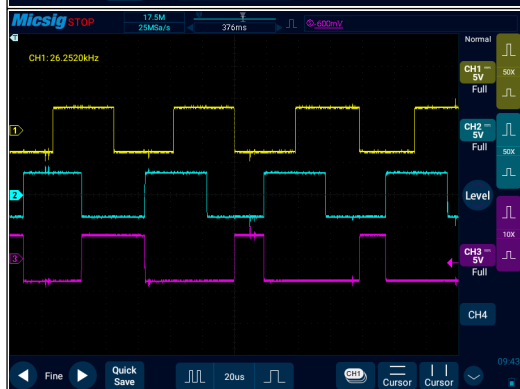
300 ms



325 ms

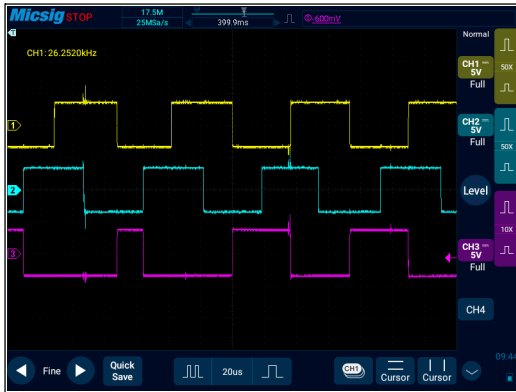


349 ms

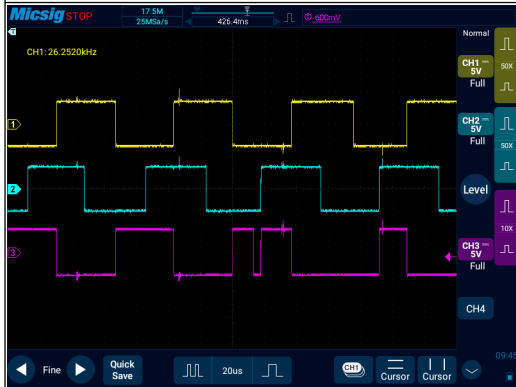


376 ms

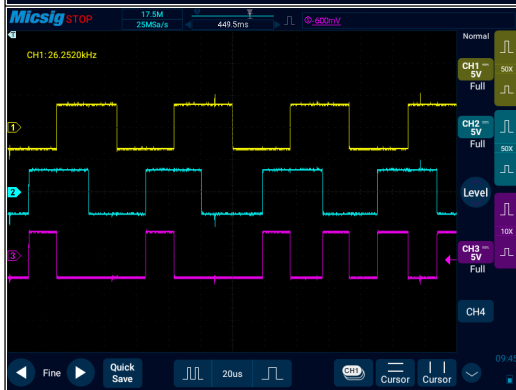
UTOPH-81AWF



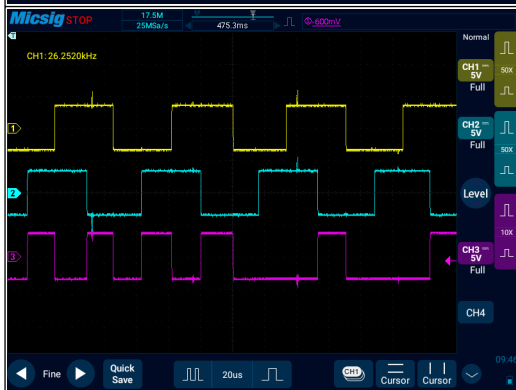
400 ms



426 ms
Marker 2

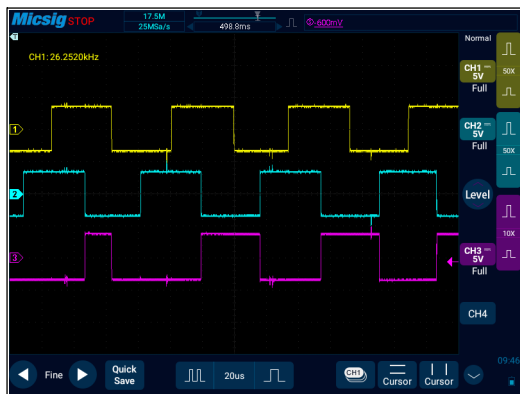


450 ms

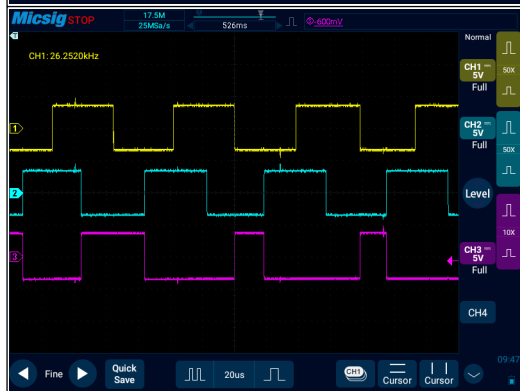


475 ms

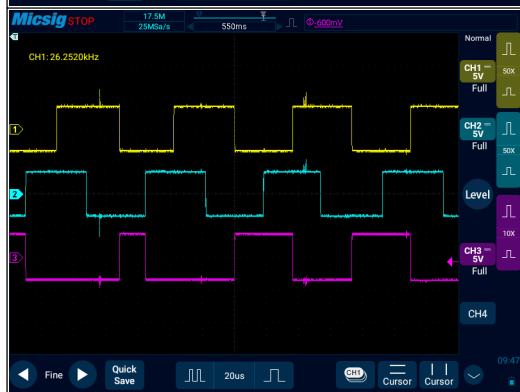
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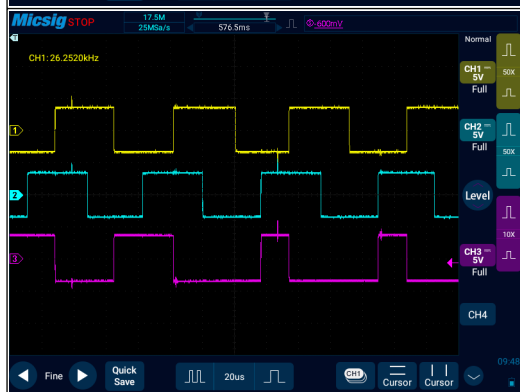
499 ms



526 ms



550 ms



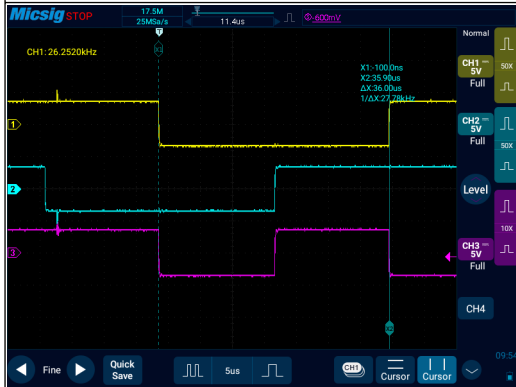
576 ms

	<p>599 ms</p>
	<p>600 ms 360° later</p>
	<p>$0^\circ \pm 700 \mu\text{s}$</p>
	<p>Duty cycle With startpulse</p>

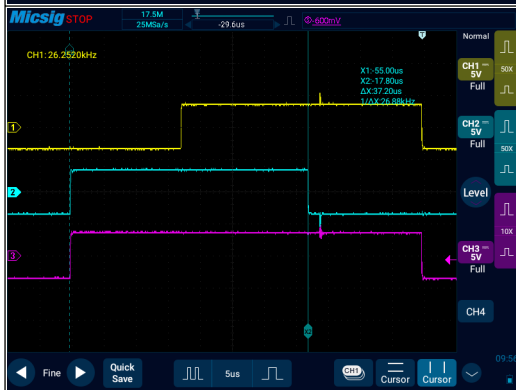
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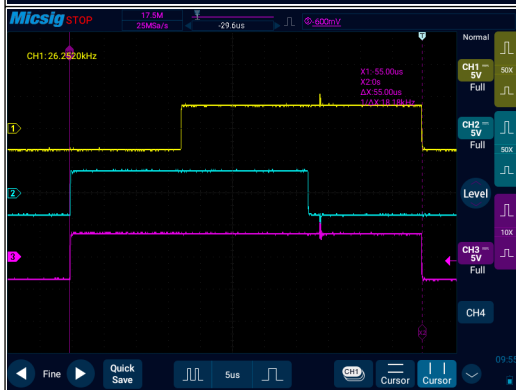
Duty cycle at different position



Phase A Low Measure



Phase B High Measure

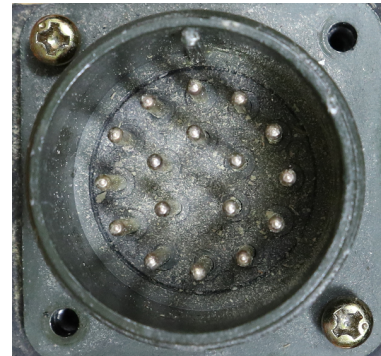
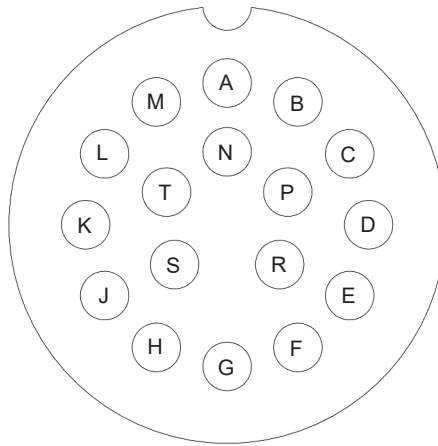


Startpulse

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Connector/Pinout

Pin	Signal name
A	A+
B	A-
C	B+
D	B-
E	C+
F	C-
G	GND
H	5 V
J	GND
K	
L	
M	
N	
R	
S	
T	



Date: 21.11.2021

Author: Robert Hartmann

Organisation: MASCHINFO