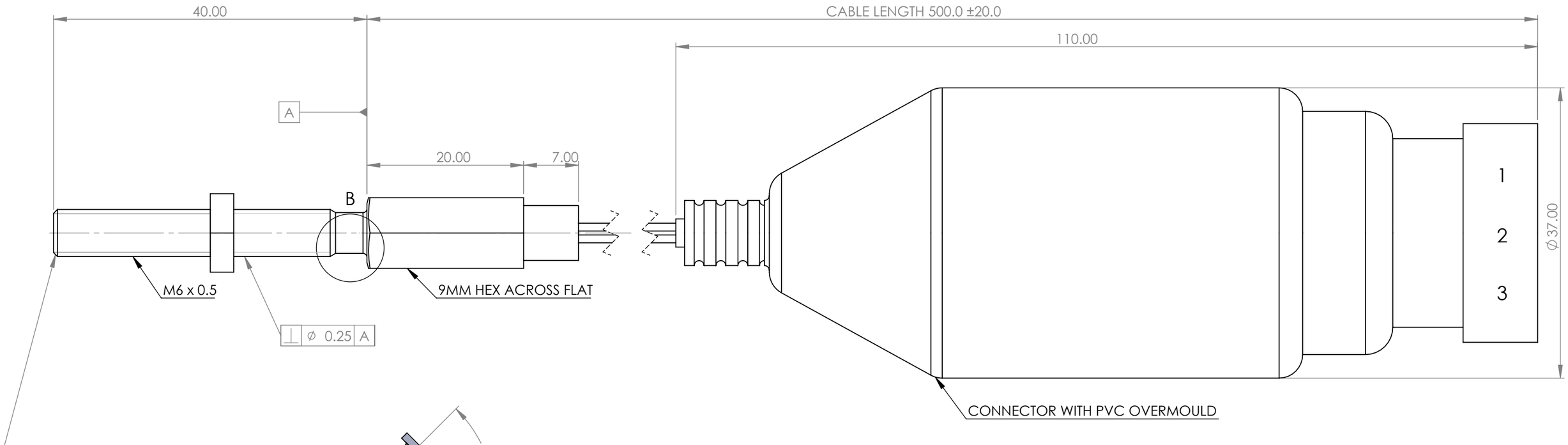
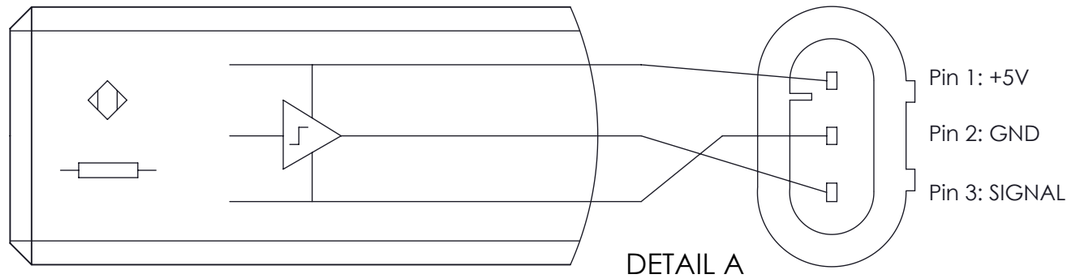
PROJECTION: 3rd angle

Revision No.	Date	Amendments	By

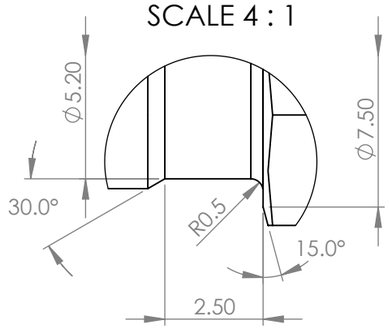


COMPRESSOR WHEEL
AND SENSOR POSITIONING
SCALE 1 : 1



DETAIL A
SCALE 7 : 1
SCHEMATIC DIAGRAM

DETAIL B
SCALE 4 : 1



Fitting Instructions

1. On the compressor cover, machine a M6x0.5 tapped hole at 45° so that the probe will be perpendicular to the wheel blade profile. Optimum location shown by the diagram above. Counter sink a flat face accordingly to allow the locking nut to still be done up. The probe should be below all blades (including splitter blades).
2. Lightly oil the thread of the probe before insertion to avoid future seizing. Make sure the tip of the probe is flush with the profile in the compressor cover. Nominal clearence between the blade tips and the end of the probe is 0.8mm.
3. Do up the locking nut firmly, whilst retaining the probe at the correct tip clearence. Make a note of the total amount of blades (including splitters).
4. Set up conversions in the datalogger/ECU to convert the sensor measurements to the shaft RPM:

$$RPM = 480 * \frac{f_{out}}{N}$$

Where 'f out' is the singnal frequency output from every 8th blade pass and 'N' is the total number of blades.

Technical Data

Supply Voltage	5V DC ± 10%
Current Consumption	10mA without load (max)
Signal Output	Signal generated by probe coil is converted to fixed amplitude square-wave with a duration of ≥100µs. Frequency proportional to rotation speed. Circuit includes ⅛ frequency division (1 pulse generated every 8 blade passes).
Frequency Range	Will not detect blade pass < 3kHz. (375 pulses per second)
Sensing Target	Aluminium Compressor Wheel Blades (min thickness 0.4mm)
Operating Temperature	Sensor Probe: -40 to 200°C. Litz Wire: -40 to 260°C. Connector side: -40 to 125°C
Sensor Probe Material	Stainless Steel
Mounting Torque	4.5 to 9.0Nm
Cable	2 Litz wires, PFA, AWG 20. Outer ∅ 1.6mm. Twisted lay 10mm.

Connector Info

AMP Superseal Connector:	Mating Connector:
1.5 Series, 3 pin	282087-1 receptacle connector housing
1 x 282105-1 tab connector hosuing	282403-1 receptacle contact for litz wire csd 0.3-0.5qmm
3 x 282404-3 tab contact, Au plated	282110-1 receptacle contact for litz wire csd 0.75-1.5qmm
3 x 281934-4 Litz wire seal	281934-4 litz wire seal, green for litz wire od 1.7-1.7
	281934-2 litz wire seal, yellow for litz wire od 1.8-2.4

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SCALE: 1:2	**DRAWN BY:** Henry H-H.	OWEN DEVELOPMENTS
DIMENSIONS IN mm	**DATE:** 14 March 2016	
TOLERANCE UNLESS STATED: **0 +/- 0.5** **0.0 +/- 0.25** **0.00 +/- 0.10** **0.000 +/- 0.05**	**CHECKED BY:** Mark H. **APPROVED BY:** Lee O.	**TITLE:** Owens Speed Sensor Kit - Fitting Instructions. (Information provided by Jaquet Technology Group)
		PART NO: 3042-05639
		SHEET NO. 1