



Test report

New Design Soldering nut M5 for DVL family



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2. GOAL OF EXPERIMENT:

The goals of the experiment are:

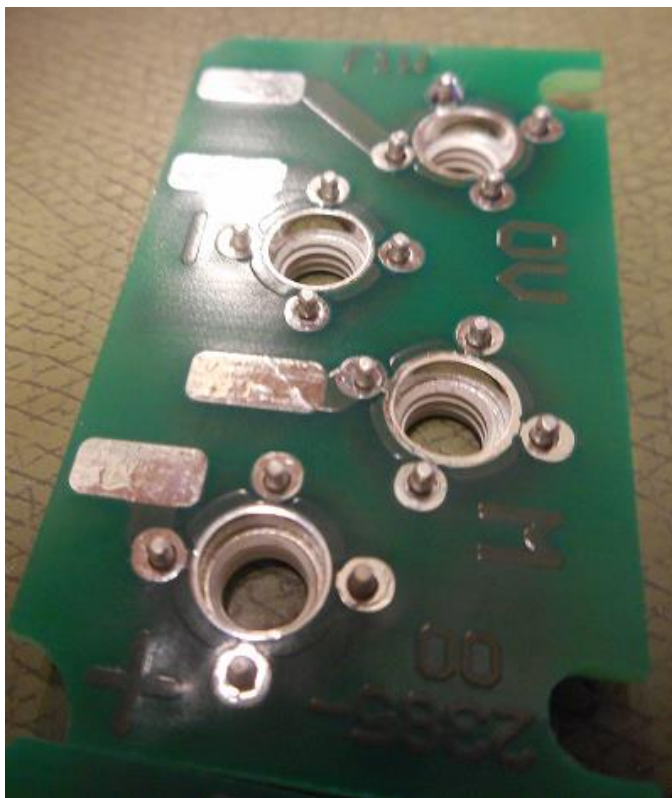
To be checked what will be the behavior during assembling and soldering of Soldering Nut M5 - 3 mm with PCB 2385. For soldering process was used soldering station from current production.

During torque test to be reached break of connections of assembled and soldered PCBs and soldering nut over 2,2N.

3. RESULTS:

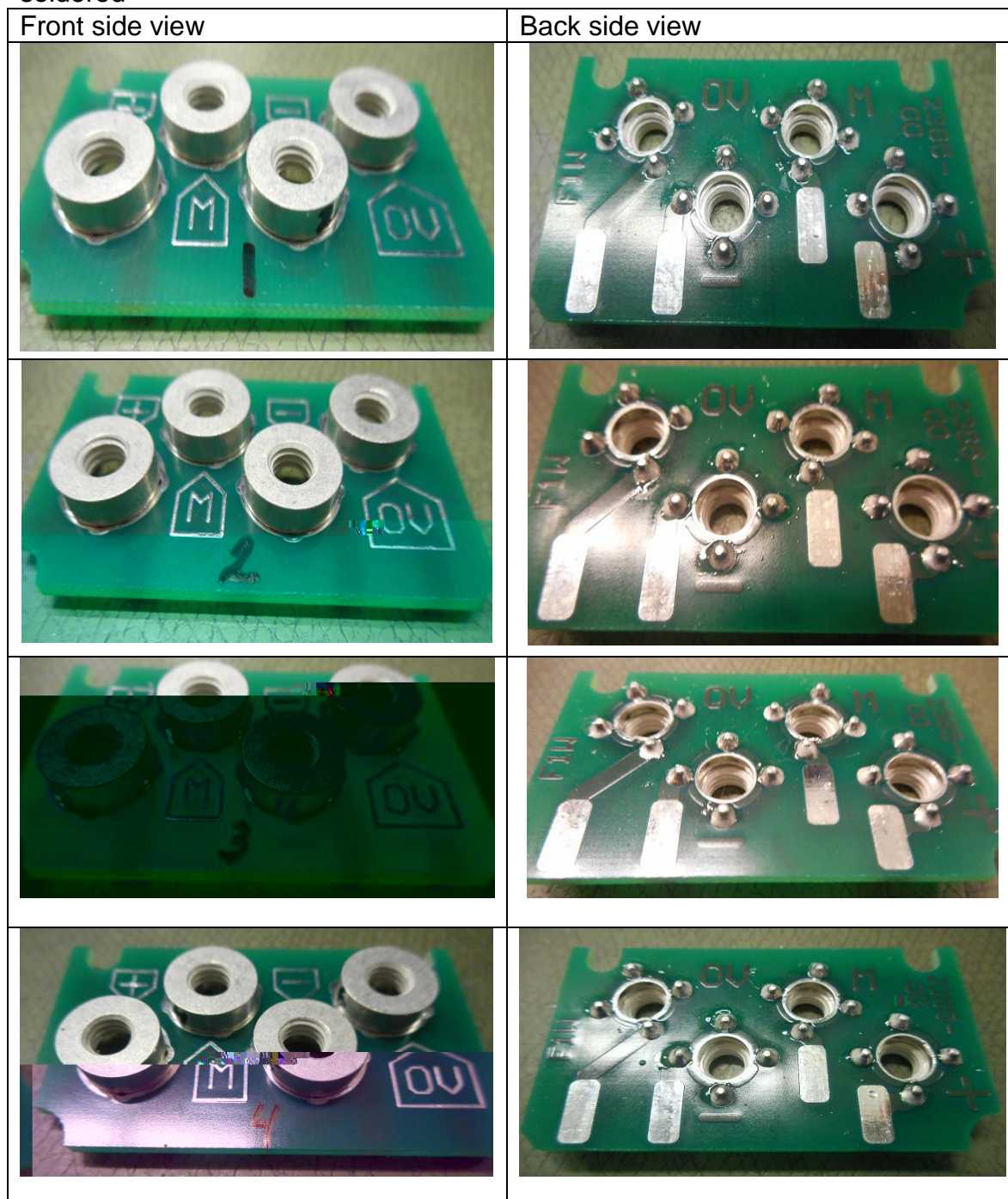
3.1 Results after assembling of Soldering Nut M5 92.40.09.120.0 - 3mm

General view after manual assembling of PCB 92.49.02.385.0 and Soldering Nut M5 92.40.09.120.0 - 3mm



3.2 Results after soldering of Soldering Nut M5 92.40.09.120.0 - 3mm

Below are presented pictures with results after soldering.
PCB 92.49.02.385.0 assembled with Soldering Nut M5 92.40.09.120.0 - 3mm and soldered



3.3 PCB electrical analyses for conductivity after soldering

Measurement of the resistance between the thread of nuts and cable solder pad.

Soldering tip	PCB#	Nut#	Signal	R [Ω]
SFV25AR	1	1	V+	0
		2	M	0
		3	V-	0
		4	0V	0
	2	5	V+	0
		6	M	0
		7	V-	0
		8	0V	0
	3	9	V+	0
		10	M	0
		11	V-	0
		12	0V	0
	4	13	V+	0
		14	M	0
		15	V-	0
		16	0V	0

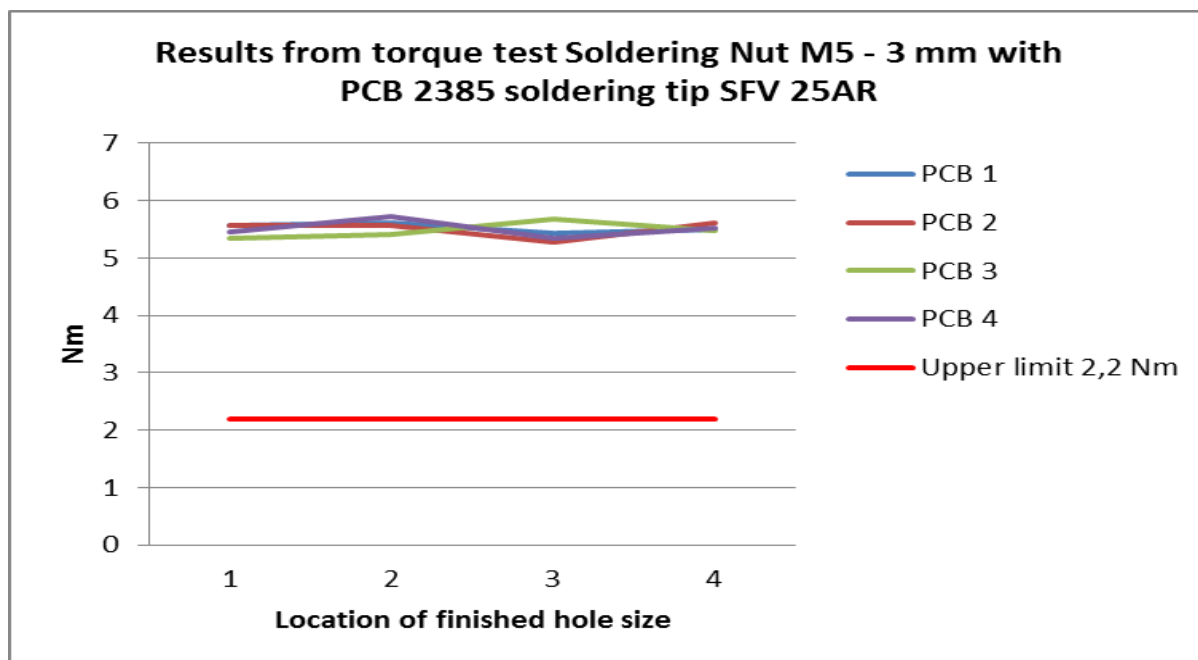
*Green means the conductivity is OK.

Conclusion: The results showed presence of connection, no issue was detected.

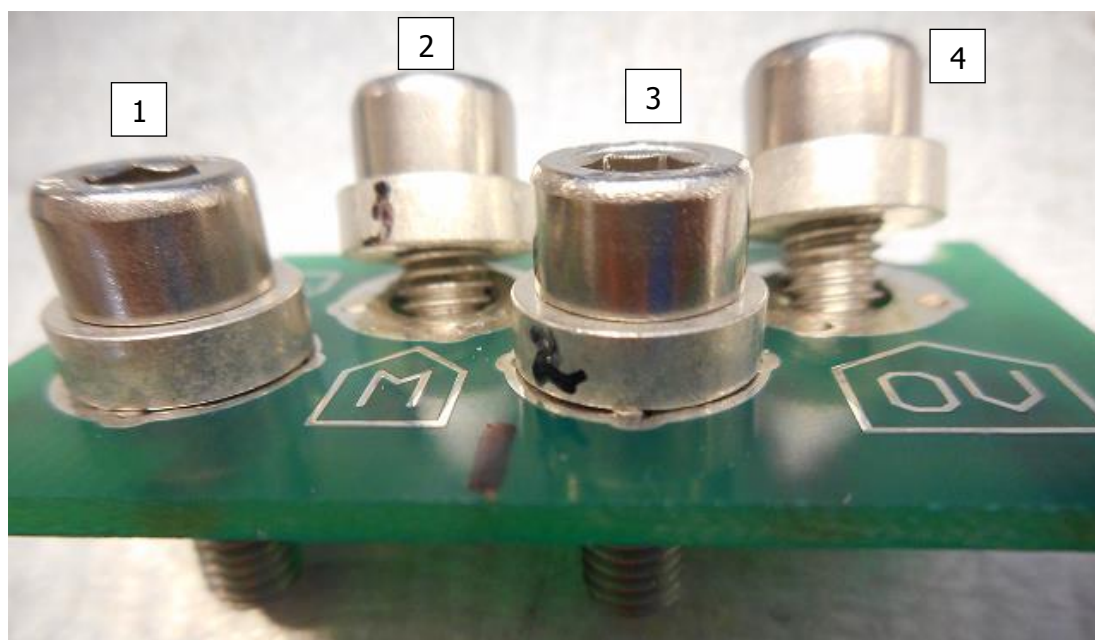
3.4 Results from torque test

PCB 92.49.02.385.0 assembled with Soldering Nut M5 92.40.09.120.0 - 3mm and soldered

Test Certificate			<i>Atlas Copco</i>	
STanalyser			Transducer	
Type:	STanalyser		Serial number:	42250230
Serial num	STA.0175		Minimum load:	4,09
Company: LEM Bulgaria			Capacity:	81,72
			Sensitivity:	2,0
Type:	PEB 2385		Span:	120%
Model:	nut 9120 3 mm		Type:	IRTT T
			Calibration value:	68,100
PCB Number	Soldering Nut Number	Location of finished hole size	Torque result	Soldering tip
1	1	1	5,56 Nm	SFV 25AR
	2	2	5,62 Nm	
	3	3	5,43 Nm	
	4	4	5,49 Nm	
2	5	1	5,56 Nm	SFV 25AR
	6	2	5,56 Nm	
	7	3	5,27 Nm	
	8	4	5,62 Nm	
3	9	1	5,35 Nm	SFV 25AR
	10	2	5,41 Nm	
	11	3	5,67 Nm	
	12	4	5,47 Nm	
4	13	1	5,45 Nm	SFV 25AR
	14	2	5,73 Nm	
	15	3	5,35 Nm	
	16	4	5,52 Nm	



General view after torque test of PCB 92.49.02.385.0 and Soldering Nut M5 92.40.09.120.0 - 3mm



Soldering Nut M5 92.40.09.120.0 - 3mm

4. CONCLUSION:

After performed tests it can be concluded that the new design of PCB 92.49.02.385.0 and Soldering Nut M5 92.40.09.120.0

- Reach requirement for electrical connection based on results from measurement of the resistance between the thread of nuts and cable solder pad.
- Reach recommended fastening torque of 2, 2 Nm based on results from torque test.
- PCB and Soldering Nut are easy for manual assembling.