

	Doc or ECO #:	ECO-PN4-003-007	Date:	09/11/2018	Author:	GD
	Rev. #:	A				
Replacing obsolete 384V to 12V DC-DC	Engineering Approval:	aeg	Date:	09/11/2018	Quality Approval	DO

P/N #:	PN4-003	Effective Date:	September 11, 2018
Title:	Modification to accommodate new 384V to 12V DC-DC converter changes		

1.0 Purpose / Summary

The 384V to 12V DC-DC went EOL

The new 384V to 12V DC-DC converter on Pro4 ICB panel power PCB (started to install in February 2018) has slight different characteristics than the obsolete BCM converter.

As a result, the tether voltage may not come up when the ROV is connected to ICB without a tether. To rectify this change minor modification to the main solid-state relay is needed.

This ECO addresses the implementation of the modification required.

2.0 Parts Affected

Part Number	Notes	Removed	Added	Modified
PN4-003	Circuit Board Panel Power Supply 5/12/24/74 V DC (Pro 4)	☐	☐	☒
52334	Loctite 596 Red High Temperature RTV Silicone	☐	☒	☐
71547	CAP ALUM 68UF 20% 100V RADIAL	☐	☒	☐
70656	#8 Ring terminals	☐	☒	☐
N/A	3/64" Heat shrink	☐	☒	☐

3.0 Detail

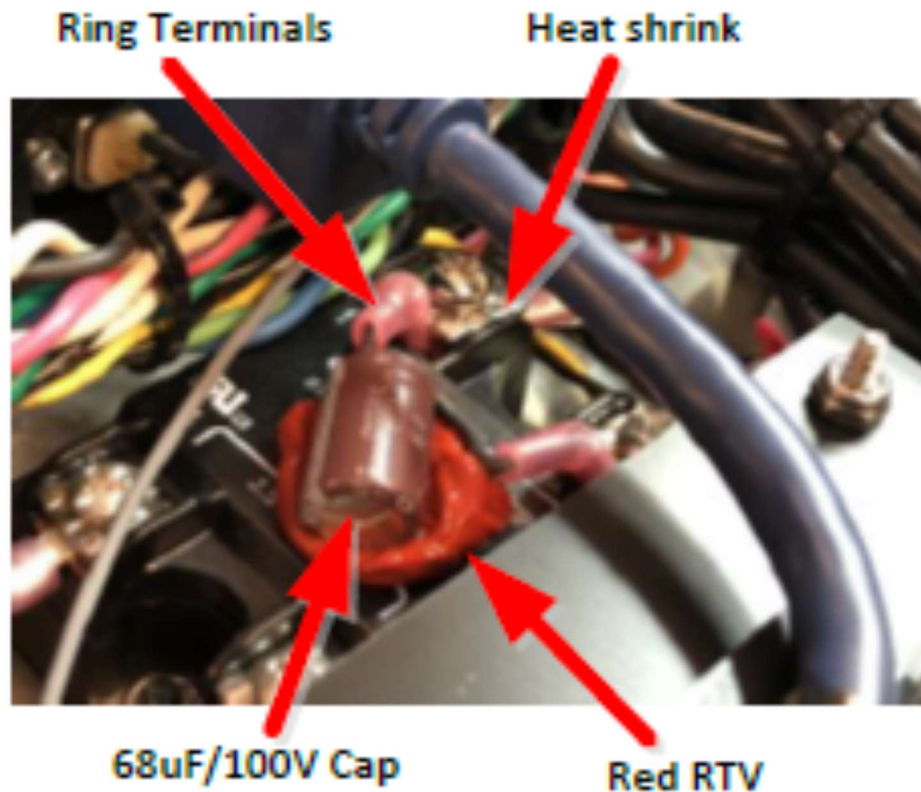
The Pro4 Panel ICB power PCB electronics uses a 384V to 12V DC-DC converter to generate the required 12V power at 300W for various uses. The specific DC-DC converter used for this purpose became obsolete (P/N B384F120T30 from Vicor) and as a result the Pro4 ICB Panel Power PCB (PN4-003) BOM was updated with a new placement (P/N BCM384F120T300A00 from Vicor) under ECO-PN4-003-006.

The new converter has slightly different electrical characteristics compared to the obsolete converter. These minor changes have caused the tether voltage to not switch on correctly when the ROV is connected to the ICB panel without a tether.

To rectify this issue a 68uF/100V Aluminum electrolytic capacitor is added across the output of the main solid-state relay which controls the switch ON/OFF function of tether voltage. The capacitor is retained

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with Red RTV to breaking off due to vibrations during shipping as shown in the photo below (next page). The retaining method may be improved via another ECO near future.



This ECO records new changes together with subsequent follow up actions in related departments.

Note that as PRO4 ICB work instructions are out of date and uncontrolled, this document serves as the work instruction addendum.

4.0 Disposition of Material

Rework of ALL stock. (completed at time of ECO publication)

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5.0 Action Items

Action	Department	Acknowledgement Initials
Update the remaining ICB panels in stock with this modification	Engineering	GD
Update SharePoint Records	Engineering	AEG
Inform subcontractors of modification and supply new Panel BOM (PPI)	Engineering	CH
Update work instructions if possible	Engineering	CH

6.0 Modified / Referenced Documents:

Document	Current Revision
Click here to enter text.	Click here to enter text.

7.0 Revision History

Date Revised (mm-dd-yyyy)	Location of Change (section, paragraph no., step no., etc.)	Description of Change Made	Name of Person making the Change