

	Doc or ECO #:	ECO-70041-006	Date:	04/09/2020	Author:	GD
	Rev. #:	A				
Discontinue using one of the approved Crystals	Engineering Approval:	aeg	Date:		Quality Approval	

P/N #:	Discontinue using one of the approved Crystals	Effective Date:	February 9, 2023
Title:	Discontinue using one of the approved Crystals (housing with metal can)		

1.0 Purpose / Summary

Currently two crystals have been approved to use on 70041 PCB but the one with housing of a metal can cannot be used greater than 900m depths and needed to be removed from the BOM

2.0 Parts Affected

Part Number	Notes	Removed	Added	New	Modified
ECS-160-12-30-AEM-TR	CRYSTAL 16.0000MHZ 12PF SMD	☒	☐	☐	☐

3.0 Detail

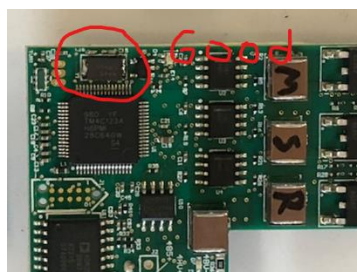
The MSS motor controller PCB electronics uses 16.0000MHZ 12PF SMD crystal at location Y1 on the PCB for the clock signal for microcontroller. Due to volatile component inventories, the following two crystals have been approved in the past:

ECS-160-12-30-AEM-TR (with metal can housing)

AA-16.000MALE-T (ceramic glass housing)

It turned out that ROV diving depths greater than 900m crush the metal can housing crystal causing the ROV to be inoperable. As a result, the BOM needed to be updated to use only one crystal (ceramic glass housing crystal). The ceramic glass crystal have been tested for 2km depth and approved.

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



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4.0 Disposition of Material

VR Inventory: Pull out all 70041 PCBs with metal can crystal and replace with ceramic glass crystal.

5.0 Action Items

Action	Department	Acknowledgement Initials
Updated PCB BOM reflect the updated part number (SRR6028-151Y)	Engineering	GD
Update SharePoint Records	Engineering	AEG
Inform subcontractors of part cross replacement and supply new PCB BOM	Engineering	GD
Order approved crystal for VR inventory for future use	Engineering	GD

6.0 Modified / Referenced Documents:

Document	Current Revision
70041 BOM	Rev 3

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
02-09-2023	Page 1	Specified the must use crystal	GD