ARTC

NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

Certificate No. S 01-1511-198A

Approval date	3 April 2017
Approved by	General Manager Technical Standards
Report no.	TAR -01-1511-198
Report date	10 November 2016

This certificate is issued to

Supplier	Ansaldo STS Australia Pty Ltd 11 Viola Place, Eagle Farm, Queensland, 4009

In respect of

Manufacturer	Ansaldo STS
Product description	Microlok Dual Seamless Changeover
Item identification	Refer to Approved Item List.
Application	ARTC Network Wide
Relevant Standards	AS7702 Rail Equipment Type Approval SPS 02 Environmental Conditions SPS 05 Electrical & Electronic Components (Ratings & Construction Requirements) ESM-05-11 Vital Signalling Relays EN50129 Railway Applications Communication, Signalling and Processing Systems - Safety Related Electronic Systems for Signalling
Relevant Equipment Manuals	SM-6800B – 1D1.0026 Communication PCB Rev 3.0 SM-6800B – 1D1.0027 Synchronisation PCB Rev 5.0 SM-6800D – 1D1.0029 Communication PCB Software Rev 1.0 SM-6800D – 1S1.0030 Synchronisation PCB Software Rev 2.0 SISTD-BE-13-SN-00049 Microlok II Hot-Standby Generic ALDS Rev 1.0 SM-9726 Microlok II Peer Protocol Application Guidelines Rev 1 SM 6800G Microlok II Application Guidelines Rev 1 IT-1002 Trouble Shooting Guide Microlok II System Maintenance Rev 3.1

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Conditions of Approval

1. Only those components listed in the approved item list, in addition to or in place of those contained in ARTC MicroLok II Type Approval (08-08-10-079), shall be used.
2. Only approved versions of software shall be used.
3. Any new version changes shall require ARTC approval prior to use.
4. The Dual outputs shall use the "OR" diode configuration in accordance with appendix 3.
5. Signalling designers shall ensure that the size and complexity of the application software for a particular MDSC installation meets the required performance and does not affect operational reliability and safety.
6. Signalling designers shall follow the Microlok II Hot-Standby Generic ALDS Rev 1.0 and SM-9726 Microlok II Peer Protocol Application Guidelines Rev 1.
7. The upgraded Microlok Development System N8000502-0300 including Reverse Compiler and Application Logic Comparison Tool shall be used.
8. To prevent changes to the software and configuration, only the read-only version of the Maintenance Tool shall be distributed to maintainers.
9. The Maintenance Tool configuration password should be set to a non-default value and distributed only to authorised users.
10. Configuration checks should be implemented in project-specific application software to protect against undesired software changes. When the executive detects that saved configuration data was for a different executive or application program an application bit CONFIGURE.ERROR is set, which can be used by the application to prevent the CPS from picking or to shut down the unit.
11. Signal designers shall disable the ability to make adjustments from the front panel toggle switches of the Controller Board and the Control Panel in the application program.
12. To filter out common mode noise on the battery supplied power input lines and protect Ethernet cabling, refer to Manuals 1D1.0026 and 27 for application recommendations.
13. The MDSC system cannot be used directly with lamp driver cards. If lamp driver cards or other specific interface features are required these shall be housed in a separate non-MDSC cardfile.

Any subsequent change to the design, materials or manufacturing process is not covered by this approval. The manufacturer should notify ARTC of any modification or changes in order to obtain a valid updated certificate.

Note/Comments NIL.

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Issue date 3 April 2017

Expiry date N/A

Issued by

John Furness
ARTC Manager Standards

Type Approval Status

Issue 1 – S-01-1511-198 - Microlok Dual Seamless Changeover – Superseded

Issue 2 – S-01-1511-198A - Microlok Dual Seamless Changeover - Current

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Approved Item List

Certificate No. S-01-1511-198A

Manufacturer Ansaldo STS

Product description Microlok II Dual Seamless Changeover

The following lists the individual items of equipment that are approved and Conditions of Use. Only these items and versions are approved and any or all other items must be submitted for approval.

Model No.	Version	Description	Conditions of Use
		Software	
N800501-0320	CC3.2	Microlok II Executive Software	
N800502-0300	CC3.0	Microlok II Development System	
N800503-0300	CC3.0	Microlok II Development System Maintenance Tool	
		Hardware for MDSC	
N17066401		Microlok II Vital Hot Standby Sync 12V	
N17066403		Microlok II Communication PCB	
N39908001		Microlok II Sync/Comm Ext Board Connector	
		Previously Approved Hardware compatible with MDSC	
N17061001		MLK II Vital 16IN 12VDC	
N17061003		MLK II Vital 16IN 50VDC	
N17060501		MLK II Vital 16OUT 12VDC	
N17061601		MLK II Vital 8IN 8OUT 12VDC	
N17061501		MLK II Non-vital 32IN 32OUT (6-30)VDC	
N17063701		MLK II Non-vital 32IN (9.5-35)VDC	
N17062701		MLK II Non-vital 32OUT (9.5-35)VDC	

		Approved Documentation/Manuals	
SISTD-BN-13-SN-00049	1.0	Ansaldo Microlok II Hot-Standby Generic ALDS	
SM-9726	1	Ansaldo SM-9726 Microlok II Peer Protocol Application Guidelines	
IT-1002	3.1	Troubleshooting Guide Microlok II System Maintenance	

N/A = not applicable