

Certificate No.	NESA-S053	Version 1.2
Approval date	23 November 2021	
Approved by	A/GM Technical Standards	
<i>This certificate is issued to</i>		
Supplier	HIMA Australia Pty Ltd Level 4 / 182 St Georges Terrace Perth WA 6000	
<i>In respect of</i>		
Manufacturer	HIMA Paul Hildebrandt GmbH Albert-Bassermann-Str. 28 68782 Bruehl, Germany	
Product description	HIMA HIMatrix System	
Item identification	Refer to approved item list	
Application	ARTC Network Wide Signalling CBI Level crossing monitoring application	
Relevant Standards	<p>EN50126 Railway Applications. The Specification and Demonstration of Reliability, Availability, Maintainability and Safety (RAMS)</p> <p>EN50128 Railway Applications - Communications, Signalling and Processing Systems - Software for Railway Control and Protection Systems</p> <p>EN50129 Railway Applications – Communication, signalling and processing systems – Safety related electronic systems for signalling</p> <p>EN50159:2010 Railway Applications - Communication, signalling and processing systems - Safety-related communication in transmission systems</p> <p>AS 7718 Signal Design Process Management</p> <p>AS 7705 Level Crossing Monitoring Systems</p> <p>EGP-04-01 – Engineering Drawings and Documentation</p> <p>ESD-05-02 HIMA Level Crossing Monitoring Standard</p> <p>ESD-05-04 HIMA LX Monitoring – ALDS</p> <p>SPS 08 Level crossing monitoring requirements</p> <p>SCP17 Computer Based Interlocking Requirements</p> <p>SPS02 Environmental Conditions</p> <p>SPS05 Electrical & Electronic Components</p>	

System Requirements

1. Only HIMA hardware items as per the HIMA HIMatrix Safety Manual for Railway Section 3.6 Table 3) shall be considered for system design - this will allow the design of a systems architecture which suits the specific application intended. See Approved Hardware list below.
2. SILworX version 5.30.0 shall only be utilised at Portland. No further installation of this version shall be permitted.
3. SILworX Ver 12 shall be utilised for all new installations due to the onboard OPC server functionality for inbuilt sequence of events recording and other improved features over previous versions.
4. Circuit and data design shall ensure a healthy communications link status is proved against all down proved contacts before outputs can be driven.
5. Only Type Approved 24VDC power supplies (20.4-28.8 Vdc including ripple) shall be used in HIMA systems.
6. All wiring connecting plugs shall have the appropriate mechanical coding inserted in accordance with the requirements of the HIMA design guidelines.
7. Line control shall be implemented when practical/possible and required based on a SiD risk assessment for inputs to monitor for issues such as spurious voltage and/or earth connections that may result in an erroneous input being registered. Line monitoring shall be implemented on all used outputs. The HIMA F3 DIO 16/8 may be used for this application as it utilises double pole outputs with the line monitoring feature.
8. The HIMA system designer shall produce data design and Design Report that details how the HIMatrix system data design meets ARTC standards, HIMA Design Guide, practices, and manufacturer requirement for each installation.
9. The HIMA system designer shall produce circuit design and Design Report that details how the HIMatrix circuit design meets the existing ARTC standards, HIMA Design Guide, practices, and manufacturer requirement for each installation.
10. The HIMA system shall be designed utilising the SILworX First Steps Manual – for new works and/or systems alterations
11. All personnel who are involved in the development, checking or independent validation of HIMA systems shall have undergone specialist HIMA system design training and retain evidence to support this training.
 - a. All personnel who are involved in the management of deployed HIMA systems shall have undergone specialist HIMA system maintenance training and retain evidence to support this training.
 - b. Where a specific HIMA competency is listed on a SoC, this must be checked as applicable.
12. Data communication links utilised for safety communications within HIMA systems shall be implemented in accordance with EN50159:2010. These data communication links shall be assessed as to their Category in accordance with Annex B of EN50159.
 - a. Where Category 1 and Category 2 data links are utilised, threats as identified in Table B2 of Annex B shall be addressed in accordance with controls detailed in Table 1 and processes in section 7.
 - b. Where Category 3 data links are utilised, a full threat assessment consistent with the requirements of EN50159 shall be undertaken.
13. All data access ports on HIMA system units – both serial and ethernet – are to be configured as ‘active’ where a permanent connection is required as part of the system architecture. Data access ports that are not required to be utilised shall be set to be deactivated.
14. All data access ports on fixed communication network routers, switches or modems – both serial and ethernet – are to be configured as ‘active’ where a permanent connection is required as part of the system architecture, or, where an ethernet port is required to be accessed by authorised and competent personnel for maintenance or fault-finding purposes – this port is to be clearly identified within the communications schematic diagram. Data access ports that are not required to be utilised shall be set to be deactivated.
15. The development and functional application of Function Blocks or ComUserTask modules for the HIMA CBI system shall be in accordance with EN50128, current ARTC signalling standards, processes and documentation that shall include the following stages – design, check, verify, simulation test and shall generate assurance documentation that includes a ‘Safety in Design’ report.



NEW EQUIPMENT AND SYSTEM APPROVAL CERTIFICATE

A general condition of approval is that the supplier remains accredited to ISO 9001 specifically for these products and ARTC is advised on a 12 monthly basis that accreditation is current. ARTC reserves the right to conduct its own audit of the manufacture and supply of these components to AS 19011.

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 certificate.

Note/Comments NIL.

Issue date 23 November 2021 **Expiry date** N/A
Issued by

ARTC Manager Signalling Standards



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Approved HIMA Hardware List:

Hardware description	Model Number	CPU Firmware	Com Firmware
Processor with Digital I/O	F30 034 SILworX	Typ03 V17.2	Typ03 V22.2
Processor with Digital and Analogue I/O	F35 034 SILworX	Typ03 V17.2	Typ03 V22.2
Remote Digital I/O Module	F3 DIO 20/8 024 SILworX	V7.20	
Remote Digital I/O Module	F1 DI 16 014 SILworX	V7.20	
Remote Digital I/O Module	F2 DO 8 014	V7.20	
Remote Digital I/O Module	F2 DO 16 014	V7.20	
Remote Digital I/O Module	F3 DIO 8/8 014	V7.20	
Remote Digital I/O Module	F3 DIO 16/8 014	V7.20	
Remote Analogue I/O Module	F3 AIO 8/4 014	V7.20	
Power Supply card	F60 PS 014		
Processor card	F60 CPU 034 SILworX	Typ 03 V17.2	Typ 03 V22.2
Digital I/O card	F60 DIO 24/16 014	V7.20	
Digital I/P card	F60 DI 32 014	V7.20	
Analogue I/P card	F60 AI 8 014	V7.20	
Counter I/P & Digital O/P card	F60 CIO 2/4 014	V7.20	
Subrack/Backplane	F60 GEH 014	V7.20	
	MI 24 014	V7.20	