

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Programmable Electronic System**with type designation(s)
Safety Manager

Issued to

Honeywell Safety Management B.V.
Amsterdam, Netherlands

is found to comply with

DNV GL rules for classification – Ships, offshore units, and high speed and light craft**Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:****Temperature A****Humidity A*****Vibration A****EMC B****Enclosure Required protection according to relevant Rules
shall be provided upon installation on board*****Refer to Application / Limitaton**Issued at **Høvik** on **2017-10-23**This Certificate is valid until **2022-06-30**.for **DNV GL**DNV GL local station: **Rotterdam**Approval Engineer: **Nils Jarem**

Odd Magne Nesvåg
Head of Section

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.



Job Id: **262.1-013431-2**
Certificate No: **TAA00001BJ**

Product description

SIL3 compliant HW Components

Catalog Number (CN)	Description	Part Number	Rev.
FS-CPCHAS-0001	Chassis for Control Processor	3402000	V1.0
FS-CPCHAS-0001	Chassis for Control Processor	3402014	V1.1
FS-CPCHAS-0002	Chassis for Control Processor (Advanced Redundancy Technique)	See CN	V1.0
FS-CPB-0001	Control processor backplane, part of FS-CPCHAS-0001	3410431	V1.0
FS-CPB-0001	Control processor backplane, part of FS-CPCHAS-0001	3410445	V1.1
FS-CPB-0002	Control processor backplane, part of FS-CPCHAS-0002 (Advanced Redundancy Technique)	See CN	V1.0
FS-TERM-0001	Bus terminator for non-redundant IO	3402007	V1.0
FC-TERM-0001	Bus terminator for non-redundant IO (conformal coated)	3432007	CC V1.0
FS-TERM-0002	Bus terminator for redundant IO	3402008	V1.0
FC-TERM-0002	Bus terminator for redundant IO (conformal coated)	3432008	CC V1.0
FS-IOCHAS-0001R	Chassis for redundant I/O modules	3402050	V1.0
FC-IOCHAS-0001R	Chassis for redundant I/O modules (conformal coated)	3432050	CC V1.0
FS-IOCHAS-0001R	Chassis for redundant I/O modules	3402052	V1.1
FC-IOCHAS-0001R	Chassis for redundant I/O modules (conformal coated)	3402052	CC V1.1
FS-IOCHAS-0001S	Chassis for non-redundant I/O modules	3402051	V1.0
FC-IOCHAS-0001S	Chassis for non-redundant I/O modules (conformal coated)	3432051	CC V1.0
FS-IOCHAS-0001S	Chassis for non-redundant I/O modules	3402053	V1.1
FC-IOCHAS-0001S	Chassis for non-redundant I/O modules (conformal coated)	3432053	CC V1.1
FC-IOCHAS-0002R	Chassis for redundant I/O modules (conformal coated) (Advanced Redundancy Technique)	See CN	CC V1.0
FC-IOCHAS-0002S	Chassis for non-redundant I/O modules (conformal coated) (Advanced Redundancy Technique)	See CN	CC V1.0
FS-IOB-0001S	I/O backplane for non-redundant I/O, part of FS-IOCHAS-0001S	3410432	V1.0
FS-IOB-0001R	I/O backplane for redundant I/O, part of FS-IOCHAS-0001R	3410434	V1.0
FS-IOB-0001R	I/O backplane for redundant I/O, part of FS-IOCHAS-0001R	3410448	V1.1
FS-IOB-0002S	ART backplane for non-redundant I/O, part of FS-IOCHAS-0002S	3412114	V1.0
FS-IOB-0002R	I/O backplane for redundant I/O, part of FS-IOCHAS-0002R	3412113	V1.0
FS-IOBUS-HBS	Horizontal non-redundant I/O bus backplane, part of FS-IOCHAS-0001S	3410433	V1.0
FS-IOBUS-HBR	Horizontal redundant I/O bus backplane, part of FS-IOCHAS-0001R	3410435	V1.0
FS-IOBUS-HB2S	A.R.T. Horizontal Non Redundant IOBUS part of FS-IOCHAS-0002S	3412112	V1.0
FS-IOBUS-HB2R	A.R.T. Horizontal Redundant IOBUS part of FS-IOCHAS-0002R	3410435	V1.0
FS-IOBUS-HB2A	A.R.T. Horizontal IOBUS External Module	3432508	V1.0
FS-IO-0001	I/O extender module part of the FS-IOCHAS-0001x	3402500	V1.0

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FC-IO-0001	I/O extender module part of the FC-IOCHAS-0001x (conformal coated)	3432500	CC V1.0
FC-IO-0002	I/O extender module part of the FS-IOCHAS-0002 (conformal coated) (Advanced Redundancy Technique)	See CN	CC V1.0
FS-QPP-0001	Quad Processor Pack	3402001	V1.1
FS-QPP-0001	Quad Processor Pack	3402009	V1.2
FS-QPP-0001	Quad Processor Pack	3402013	V1.3
FC-QPP-0001	Quad Processor Pack (conformal coated)	3432013	CC V1.3
FC-QPP-0001	Quad Processor Pack (conformal coated)	3432018	CC V1.4
FC-QPP-0002	Enhanced Performance Quad Processor Pack (conformal coated)	3432017	CC V1.0
FS-BKM-0001	Battery and Key switch Module	3402003	V1.0
FC-BKM-0001	Battery and Key switch Module (conformal coated)	3432003	CC V1.0
FS-PSU-240516	Power Supply Unit 24/5 Vdc, 16A	3402002	V1.0
FC-PSU-240516	Power Supply Unit 24/5 Vdc, 16A (conformal coated)	3432002	CC V1.0
FS-PSU-240516	Power Supply Unit 24/5 Vdc, 16A	3402011	V1.1
FC-PSU-240516	Power Supply Unit 24/5 Vdc, 16A	3432011	CC V1.1
FS-SDI-1624	Safe digital input module (24 Vdc, 16 channels)	3402100	V1.0
FC-SDI-1624	Safe digital input module (24 Vdc, 16 channels) (conformal coated)	3432100	CC V1.0
FC-SDI-1624	Safe digital input module (24 Vdc, 16 channels) (conformal coated)	3432110	CC V1.1
FS-SAI-0410	Safe analog input module (4 channels)	3402102	V1.0
FC-SAI-0410	Safe analog input module (4 channels) (conformal coated)	3432102	CC V1.0
FS-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels)	3402103	V1.0
FC-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels) (conformal coated)	3432103	CC V1.0
FS-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels)	3402106	V1.1
FC-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels) (conformal coated)	3432106	CC V1.1
FC-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels) (conformal coated)	3432108	CC V1.2
FA-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels) (conformal coated) (ATEX)	3442108	CA V1.2
FC-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels) (conformal coated)	See CN	V1.5
FA-SAI-1620M	Safe high-density analog input module (24 Vdc, 16 channels) (conformal coated) (ATEX)	See CN	V1.5
FS-SDIL-1608	Safe line-monitored digital input module with earth fault monitor (16 channels)	3402104	V1.0
FC-SDIL-1608	Safe line-monitored digital input module with earth fault monitor (16 channels) (conformal coated)	3432104	CC V1.0
FS-SDIL-1608	Safe line-monitored digital input module with earth fault monitor (16 channels)	3402107	V1.1
FC-SDIL-1608	Safe line-monitored digital input module with earth fault monitor (16 channels) (conformal coated)	3432107	CC V1.1

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FC-SDIL-1608	Safe line-monitored digital input module with earth fault monitor (16 channels) (conformal coated)	3432109	CC V1.2
FA-SDIL-1608	Safe line-monitored digital input module with earth fault monitor (16 channels) (conformal coated) (ATEX)	3442109	CA V1.2
FS-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels)	3402202	V1.0
FC-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels) (conformal coated)	3432202	CC V1.0
FS-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels)	3402211	V1.1
FC-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels) (conformal coated)	3432211	CC V1.1
FS-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels)	3402215	V1.2
FC-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels) (conformal coated)	3432215	CC V1.2
FC-SDO-0824	Safe digital output module (24 Vdc, 0.55 A, 8 channels) (conformal coated)	3432220	CC V1.3
FS-SAO-0220M	Safe analog output module (0(4)-20 mA, 2 channels)	3402203	V1.0
FC-SAO-0220M	Safe analog output module (0(4)-20 mA, 2 channels) (conformal coated)	3432203	CC V1.0
FC-SAO-0220M	Safe analog output module (0(4)-20 mA, 2 channels) (conformal coated)	3432222	CC V1.2
FS-SDO-0424	Safe digital output module (24 Vdc, 2 A, 4 channels)	3402207	V1.0
FC-SDO-0424	Safe digital output module (24 Vdc, 2 A, 4 channels) (conformal coated)	3432207	CC V1.0
FS-SDO-0424	Safe digital output module (24 Vdc, 2 A, 4 channels)	3402217	V1.1
FC-SDO-0424	Safe digital output module (24 Vdc, 2 A, 4 channels) (conformal coated)	3432217	CC V1.1
FC-SDO-0424	Safe digital output module (24 Vdc, 2 A, 4 channels) (conformal coated)	3432219	CC V1.2
FS-SDOL-0424	Safe loop-monitored digital output module (24 Vdc, 1 A, 4 ch.)	3402208	V1.0
FC-SDOL-0424	Safe loop-monitored digital output module (24 Vdc, 1 A, 4 ch.) (conformal coated)	3432208	CC V1.0
FS-SDOL-0424	Safe loop-monitored digital output module (24 Vdc, 1 A, 4 ch.)	3402216	V1.1
FC-SDOL-0424	Safe loop-monitored digital output module (24 Vdc, 1 A, 4 ch.) (conformal coated)	3432216	CC V1.1
FC-SDOL-0424	Safe loop-monitored digital output module (24 Vdc, 1 A, 4 ch.) (conformal coated)	3432221	CC V1.2
FS-SDI-1648	Safe digital input module (48 Vdc, 16 channels)	3402105	V1.1
FC-SDI-1648	Safe digital input module (48 Vdc, 16 channels) (conformal coated)	3432105	CC V1.1
FS-SDO-0448	Safe digital output module (48 Vdc, 0.75 A, 4 channels)	3402214	V1.1
FC-SDO-0448	Safe digital output module (48 Vdc, 0.75 A, 4 channels) (conformal coated)	3432214	CC V1.1
FS-SDOL-0448	Safe loop-monitored digital output module (48 Vdc, 0.5 A, 4 ch.)	3402209	V1.0
FC-SDOL-0448	Safe loop-monitored digital output module (48 Vdc, 0.5 A, 4 ch.) (conformal coated)	3432209	CC V1.0
FS-SDO-04110	Safe digital output module (110 Vdc, 0.32 A, 4 channels)	3402212	V1.1
FC-SDO-04110	Safe digital output module (110 Vdc, 0.32 A, 4 channels) (conformal coated)	3432212	CC V1.1
FC-RUSIO-3224	Remote Universal Safe IO module (24 V, 32 Channels) (conformal coated)	See CN	1

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FC-RUSIO-3224	Remote Universal Safe IO module (24 V, 32 Channels) (conformal coated)	See CN	1,1
FC-RUSIO-3224	Remote Universal Safe IO module (24 V, 32 Channels) (conformal coated)	See CN	1,2
FC-RUSIO-3224	Remote Universal Safe IO module (24 V, 32 Channels) (conformal coated)	See CN	1,3
FC-RUSIO-3224	Remote Universal Safe IO module (24 V, 32 Channels) (conformal coated)	See CN	CC 1.4
FC-RUSLS-3224	Remote Universal Logic Solver module (24 V, 32 Channels) (conformal coated)	See CN	CC 1.0
FC-MCAR-01	18 inch Panel mounted IOTA carrier	See CN	1
FC-MCAR-02	36 inch Panel mounted IOTA carrier	See CN	1
FC-IOTA-R24	Common I/O termination Assembly	See CN	1
FC-IOTA-R24	Common I/O termination Assembly	See CN	1,1
FC-IOTA-R24	Common I/O termination Assembly	See CN	1,2
FC-IOTA-R24	Common I/O termination Assembly	See CN	1,3
FC-IOTA-NR24	Common I/O termination Assembly Non Redundant	See CN	1
FS-TSDI-16UNI	Safe Digital Input FTA(24/48Vdc, NAMUR 16 channels)	3410741	-
FC-TSDI-16UNI	Safe Digital Input FTA(24/48Vdc, NAMUR 16 channels) (conformal coated)	3440741	CC
FS-TSDI-1624C	Current-limited digital input FTA (24 Vdc, 16 channels)	3410742	-
FC-TSDI-1624C	Current-limited digital input FTA (24 Vdc, 16 channels) (conformal coated)	3440742	CC
FS-TSDI-16115	Safe active/passive digital input FTA (115 Vac/dc, 16 ch.)	3410743	-
FC-TSDI-16115	Safe active/passive digital input FTA (115 Vac/dc, 16 ch.) (conformal coated)	3440743	CC
FS-TSAI-0410	Safe analog input FTA (4 channels)	3410745	-
FC-TSAI-0410	Safe analog input FTA (4 channels) (conformal coated)	3440745	CC
FS-TSAI-1620M	Safe 0(4)-20 mA analog input FTA (16 channels)	3410746	-
FC-TSAI-1620M	Safe 0(4)-20 mA analog input FTA (16 channels) (conformal coated)	3440746	CC
FC-TSAIOP-1620M	Safe 0(4)-20 mA analog input FTA (16 channels) (conformal coated)	See CN	CC
FS-TSHART-1620M	Safe 0(4)-20 mA analog input FTA (16 channels) with HART interface	3410747	-
FC-TSHART-1620M	Safe 0(4)-20 mA analog input FTA (16 channels) with HART interface (conformal coated)	3440747	CC
FC-TSHRTOP-1620M	Safe 0(4)-20 mA analog input FTA (16 channels) with HART interface (conformal coated)	See Cn	CC
FS-TSGAS-1624	Safe Gas –Flame detector input FTA (0 – 20 mA, 16 channels)	3410748	-
FC-TSGAS-1624	Safe Gas –Flame detector input FTA (0 – 20 mA, 16 channels) (conformal coated)	3440748	CC
FC-TSGASH-1624	Safe Gas –Flame detector input FTA (0 – 20 mA, 16 channels) with HART interface (conformal coated)	3440772	CC
FC-TSGASH-1624P	Safe Gas –Flame detector input FTA (0 – 20 mA, 16 channels) with HART interface (conformal coated)	See CN	CC
FS-TSFIRE-1624	Safe Fire detector input FTA with Line Mon. (24 Vdc, 16 ch.)	3410763	V1.1
FC-TSFIRE-1624	Safe Fire detector input FTA with Line Mon. (24 Vdc, 16 ch.) (conformal coated)	3440763	CC V1.1
FS-TPSU-2430	24 Vdc to 30 Vdc/1 A converter	3410752	-
FC-TPSU-2430	24 Vdc to 30 Vdc/1 A converter (conformal coated)	3440752	CC
FS-TPSU-2430	24 Vdc to 30 Vdc/1 A converter	3410769	V1.1

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FC-TPSU-2430	24 Vdc to 30 Vdc/1 A converter (conformal coated)	3440769	CC V1.1
FS-TSAO-0220m	Safe 0(4)-20 mA analog input FTA (2 channels)	3410753	-
FC-TSAO-0220m	Safe 0(4)-20 mA analog input FTA (2 channels) (conformal coated)	3440753	CC
FC-TSAOH-0220m	Safe 0(4)-20 mA analog input FTA (2 channels) with HART interface (conformal coated)	3440774	CC
FS-TSDO-0424	Safe digital output FTA (24 Vdc, 4 channels)	3410755	-
FC-TSDO-0424	Safe digital output FTA (24 Vdc, 4 channels) (conformal coated)	3440755	CC
FS-TSDO-04UNI	Safe digital output FTA (24/48/110 Vdc, 4 channels)	3410756	-
FC-TSDO-04UNI	Safe digital output FTA (24/48/110 Vdc, 4 channels) (conformal coated)	3440756	CC
FS-TSDO-0824	Safe digital output FTA (24 Vdc, 8 channels)	3410757	-
FC-TSDO-0824	Safe digital output FTA (24 Vdc, 8 channels) (conformal coated)	3440757	CC
FC-TSDO-0824C	Safe digital output FTA current limited (24 Vdc, 8 channels)	3410758	CC
FC-TSDOL-0424C	Safe digital output FTA, current limited (24 Vdc, 4 channels)	3410759	CC
FS-TSRO-0824	Digital output (relay) FTA for SIL3 applications (8 channels)	3410761	-
FC-TSRO-0824	Digital output (relay) FTA for SIL3 applications (8 channels) (conformal coated)	3440761	CC
FS-TSRO-0824	Digital output (relay) FTA for SIL3 applications (8 channels)	3410767	V1.1
FC-TSRO-0824	Digital output (relay) FTA for SIL3 applications (8 channels) (conformal coated)	3440767	CC V1.1
FS-TSDI-1624	Safe digital input FTA (24 Vdc, 16 channels)	3410764	V1.0
FC-TSDI-1624	Safe digital input FTA (24 Vdc, 16 channels) (conformal coated)	3440764	CC V1.0
FS-TSDI-1648	Safe digital input FTA (48 Vdc, 16 channels)	3410765	V1.0
FC-TSDI-1648	Safe digital input FTA (48 Vdc, 16 channels) (conformal coated)	3440765	CC V1.0
FS-TSRO-08UNI	Digital output (relay) FTA for SIL3 applications, common power (8 channels)	3410766	V1.0
FC-TSRO-08UNI	Digital output (relay) FTA for SIL3 applications, common power (8 channels) (conformal coated)	3440766	CC V1.0
FC-TSPKUNI-1624	SM RIO Safe FTA Knife, 3-wire,24Vdc,16ch (conformal coated)	See CN	CC V1.0
1200 S 24 P067 V115 CM	1200 S PSU 115VAC/24VDC Complete Mounted 45 A	4220135	-
1200 S 24 P067 V230 CM	1200 S PSU 230VAC/24VDC Complete Mounted 45 A	4220136	-
FC-PSU-UNI2450	System Power Supply, input 115/230VAC output 24Vdc, 50A	4220156	CC V1.0
FC-PSU-FLTR2450	System Power Supply Filter for FC-PSU-UNI2450	4220160	CC V1.0
FC-PSU-UNI2450	System Power Supply, input 115/230VAC output 24Vdc, 50A	4220164	CC V2.0
FC-PSU-UNI2450U	System Power Supply, input 115/230VAC output 24Vdc, 50A, UL508	See CN	CC V1.0
FA-PSU-UNI2450U	System PSU, input 115/230VAC output 24Vdc, 50A, UL508, ATEX	See CN	CC V1.0
FC-PSU-UNI4825U	System Power Supply, input 115/230VAC output 48Vdc, 25A, UL508	4220157	CC V1.0
FC-PSU-UNI6020U	System Power Supply, input 115/230VAC output 60Vdc, 20A, UL508	4220158	CC V1.0

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FC-PSU-UNI11011U	System Power Supply, input 115/230VAC output 110Vdc, 11A, UL508	See CN	CC V1.0
FC-PSU-UNI2450U	System Power Supply, input 115/230VAC output 24Vdc, 50A, UL508	See CN	CC V2.1
FA-PSU-UNI2450U	System PSU, input 115/230VAC output 24Vdc, 50A, UL508, ATEX	See CN	CC V2.1
FC-PSU-UNI4825U	System Power Supply, input 115/230VAC output 48Vdc, 25A, UL508	4220157	CC V2.1
FC-PSU-UNI6020U	System Power Supply, input 115/230VAC output 60Vdc, 20A, UL508	4220158	CC V2.1
FC-PSU-UNI11011U	System Power Supply, input 115/230VAC output 110Vdc, 11A, UL508	See CN	CC V2.1
FC-PSU-UNI2450F	System Power Supply, input 115/230VAC output 24Vdc, 50A, UL508	See CN	CC V3.0
FA-PSU-UNI2450F	System PSU, input 115/230VAC output 24Vdc, 50A, UL508, ATEX	See CN	CC V3.0
FC-PSU-UNI4825F	System Power Supply, input 115/230VAC output 48Vdc, 25A, UL508	See CN	CC V3.0
FC-PSU-UNI6020F	System Power Supply, input 115/230VAC output 60Vdc, 20A, UL508	See CN	CC V3.0
FC-PSU-UNI11011F	System Power Supply, input 115/230VAC output 110Vdc, 11A, UL508	See CN	CC V3.0
FC-PSU-FLTR-MARINE	System Power Supply Filter for FC-PSU-UNI2450U for compliance to Marine	See CN	CC V1.0
FC-FDOVP-2450	System Power Supply input 24VDC output 24Vdc, 50A, UL 508	See CN	CC V1.0

Further HW Components suitable for use to build up safety loops up to SIL3 with the Safety Manager

Catalog Number	Description	Part Number	Rev.
FS-USI-0001	Universal Safety Interface	3402004	V1.0
FC-USI-0001	Universal Safety Interface (conformal coated)	3432004	CC V1.0
FS-USI-0001	Universal Safety Interface	3402012	V1.1
FC-USI-0001	Universal Safety Interface (conformal coated)	3432012	CC V1.1
FC-USI-0001	Universal Safety Interface (conformal coated)	3432019	CC V1.3
FC-USI-0002	Universal Safety Interface MMEM (conformal coated)	See CN	CC V1.0
FE-USI-0002	Universal Safety Interface MMEM,CC,EUCN (conformal coated)	See CN	V1.0
FS-DCOM-232/485	Communication interface FTA for RS232 and RS485	3402300	V1.0
FS-DCOM-232/485	Communication interface FTA for RS232 and RS485	3402304	V2.0
FC-DCOM-232/485	Communication interface FTA for RS232 and RS485 (conformal coated)	3432304	CC V2.0
FS-DCOM-232/485	Communication interface FTA for RS232 and RS485	3402305	V2.1
FC-DCOM-232/485	Communication interface FTA for RS232 and RS485 (conformal coated)	3432305	CC V2.1
FS-UCOM-HSE	High speed Ethernet switch, make: Hirschman, type RS2-TX	4600065	-

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Catalog Number	Description	Part Number	Rev.
SDW-550EC	High speed Ethernet switch, make: Westermo, type SDW-550-EC	4600072	-
MTL24571	Din rail mount protection module	4600080	-
FS-PDB-HSE24	Power Distribution board to power 2x FS-UCOM-HSE	3402301	-
FC-PDB-ARTF05	ART Fused Power distribution board IO 5Vdc WD (Advanced Redundancy Technique)	See CN	-
IMC-101-M-SC-HPS	Industrial 10/100BaseT(X) to 100BaseFX media converter, make MOXA	4600110	-
EDS-305-M-SC-HPS	5-port unmanaged Ethernet switch, make MOXA	4600111	-
EDS-316-MM-SC-HPS	16-port unmanaged Ethernet switch, make MOXA	4600112	-
EDS-608	8-port compact modular managed Ethernet switch, make MOXA	4600113	-
EDS-616	16-port compact modular managed Ethernet switch, make MOXA	4600114	-
CM-600-4TX	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600115	-
CM-600-4MSC	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600116	-
CM-600-2MSC/2TX	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600117	-
CM-600-3MSC/1TX	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600118	-
IMC-101-M-SC-T-HPS_C	Industrial 10/100BaseT(X) to 100BaseFX media converter, make MOXA (conformal coated)	4600119	CC
EDS-305-M-SC-T-HPS_C	5-port unmanaged Ethernet switch, make MOXA (conformal coated)	4600120	CC
EDS-316-MM-SC-T-HPS_C	16-port unmanaged Ethernet switch, make MOXA (conformal coated)	4600121	CC
EDS-608-T-HPS_C	8-port compact modular managed Ethernet switch, make MOXA (conformal coated)	4600122	CC
EDS-616-T-HPS_C	16-port compact modular managed Ethernet switch, make MOXA (conformal coated)	4600123	CC
IMC-101-S-SC-HPS	Industrial 10/100BaseT(X) to 100BaseFX media converter, make MOXA	4600128	-
EDS-305-S-SC-HPS	5-port unmanaged Ethernet switch, make MOXA	4600129	-
EDS-316-SS-SC-HPS	16-port unmanaged Ethernet switch, make MOXA	4600130	-
CM-600-4SSC	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600131	-
CM-600-2SSC/2TX	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600132	-
CM-600-3SSC/1TX	4-port fast Ethernet interface modules for EDS-600 series Ethernet switches, make MOXA	4600133	-
IMC-101-S-SC-T-HPS_C	Industrial 10/100BaseT(X) to 100BaseFX media converter, make MOXA (conformal coated)	4600134	CC
EDS-305-S-SC-T-HPS_C	5-port unmanaged Ethernet switch, make MOXA (conformal coated)	4600135	CC
EDS-316-SS-SC-T-HPS_C	16-port unmanaged Ethernet switch, make MOXA (conformal coated)	4600136	CC

Job Id: **262.1-013431-2**
 Certificate No: **TAA00001BJ**

Further interference free HW Components suitable for use with the Safety Manager:

Catalog Number	Description	Part Number	Rev.
FS-DO-1224	Digital output module (24 Vdc, 0.55 A, 12 channels)	3402204	V1.0
FC-DO-1224	Digital output module (24 Vdc, 0.55 A, 12 channels) (conformal coated)	3432204	CC V1.0
FS-RO-1024	Relay output module (contacts, 36 Vdc, 2 A, 10 channels)	3402205	V1.0
FC-RO-1024	Relay output module (contacts, 36 Vdc, 2 A, 10 channels) (conformal coated)	3432205	CC V1.0
FS-DO-1624	Digital output module (24 Vdc, 0.1 A, 16 channels)	3402206	V1.0
FC-DO-1624	Digital output module (24 Vdc, 0.1 A, 16 channels) (conformal coated)	3432206	CC V1.0
FS-TIDI-1624	Isolated passive digital input FTA (16 channels)	3410744	-
FC-TIDI-1624	Isolated passive digital input FTA (16 channels) (conformal coated)	3440744	CC
FS-TDO-1624	Digital output FTA (24 Vdc, 16 channels)	3410754	-
FC-TDO-1624	Digital output FTA (24 Vdc, 16 channels) (conformal coated)	3440754	CC
FS-TRO-0824	Digital output (relay contact) FTA (8 channels, NO/NC)	3410761	-
FC-TRO-0824	Digital output (relay contact) FTA (8 channels, NO/NC) (conformal coated)	3440761	CC
FS-TRO-1024	Digital output (relay contact) FTA (10 channels)	3410762	-
FC-TRO-1024	Digital output (relay contact) FTA (10 channels) (conformal coated)	3440762	CC
FS-TDOL-07120	Digital output FTA, loop monitoring (120 V, 7 channels)	3410770	V1.1
FC-TDOL-07120	Digital output FTA, loop monitoring (120 V, 7 channels) (conformal coated)	3440770	CC V1.1
FC-TDOL-0724	Digital output FTA, loop monitoring (24 V, 7 channels) (conformal coated)	3440773	CC V1.0
FC-TDOL-0724U	Digital output FTA, loop monitoring (24 V, 7 channels) For connecting to Universal IO module.) (conformal coated)	3440773	CC V1.0
FS-FANWR-24R	24Vdc(2) fan unit with read back	3440159	V1.0
FC-TELD-0001	Earth Leakage Detector	See CN	V1.0

Place of manufacture

tbp electronics bv
 Vlakhodem 10
 3247 CP Dirksland
 the Netherlands

Enics Slovakia s.r.o.
 Trencianska 19 01851
 Nova Dubnica
 SLOVAKIA

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program.

Application/Limitation

Location class for Humidity-A: Equipment must be mounted in locations where special precautions are taken to avoid condensation. Testing was limited to max 2 days, not 4 as required.

Temperature Location class A: Applies to Safety manager system which is delivered as a cabinet.

Type Approval documentation

Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

Marking of product

The products to be marked with model name, manufacturer name and serial number.

Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE