Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	**DEIF A/S**
Address	Frisenborgvej 33, Skive, 7800, Denmark
Type	Monitoring and Control System
Description	Programmable Automation Controller with EtherCAT based I/O modules
Trade Name	AMC 600
Application	Marine, Offshore and Industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - December 2021.
Specified Standard	Manufacturer's Specification.
Ratings	24 VDC (18...32 VDC)
Additional Tests	Low Temperature Test: -40°C/16hrs. Flammability Test: Needle Flame Test (IEC 60095-11-5)
Other Conditions	For the configuration of the EtherCAT-slave Output-modules and their safe-operation, please refer to the AMC 600 data sheet doc. no. "492126002K", Section 2.4.3. For the configuration of the self-monitoring properties of the AMC 600, please refer to the description "IgH EtherCAT master".

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A member of the Lloyd's Register group

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TA01 2.0

Type Approval Certificate

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

The Design Appraisal Document HPC2362002-23/ML and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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TA01 2.0

Appendix

Programmable Computer Modules

PCM6.1   Application: C/C++ and CODESYS application
DI: high with 13…30V and low with -30…+5V
DO: solid state relay with external watchdog
Interface: 2x Ethernet, 2x CAN, 2x RS-422/485
Processor: 1.2GHz dual core
Memory: 1 GB DDR3 RAM 64bit
Storage: 4GB non-volatile

Power Distribution Modules

PDM6.1   Power: 30W /24V (18…32V)
Black-out hold-up for 10ms
EMI filter: common mode EMI input filter
Isolation: input galvanic isolated from other potentials, 500 VDC
PDM6.2   Power: 30W / 24V (18…32V)
Black-out hold-up for 10ms+300ms
EMI filter: common mode EMI input filter
Isolation: input galvanic isolated from other potentials, 500 VDC

Station Interface Modules

SIM6.1   Interface: 1x EtherCAT OUT (optical – fibre glass 50µm)
1x EtherCAT IN (optical – fibre glass 50µm)
SIM6.2   Interface: 1x EtherCAT OUT (electrical – RJ45)
1x EtherCAT OUT (optical – fibre glass 50µm)
SIM6.3   Interface: 1x EtherCAT IN (electrical – RJ45)
1x EtherCAT OUT (optical – fibre glass 50µm)
1x EtherCAT OUT (electrical – RJ45)

Digital Input/Output Modules

DIO6.1   10x Output: max. 0.5A per channel and max. total 2A

16x Input: high with 13…30V and low with -30…+5V

Analogue Input/Output Modules

AIO6.1   2x Output: Current mode 0…20mA, 4…20mA

Voltage mode -10…10V, 0-10V

Resolution 16 bit

16x Input :   -10…10V, 0…10V, -20…20mA, 0…20mA, 4…20mA

Impedance – current (50Ω), voltage (10kΩ)

Resolution 16 bit

Temperature Input Modules

TIM6.1   14x Input: Pt100 (-50…200°C) – 2-wire or 3-wire connection

Sampling ≤ 100ms

Open input and short circuit detectable

Interface Modules

IFM6.1   Interface: 2x Profibus DP Master with max. 5 slaves per master

2x RS-485 shielded twisted copper cable

IFM6.2   Interface: CAN (ISO11989) with termination open/120Ω

2x RS-422 shielded twisted copper cable

2x Digital with frequency measurement

Software/Firmware Version

Controller: **V.1.0.x.y**

EtherCAT configuration file: **V.1.0.x.y** (PCM6.1, DIO6.1, AIO6.1, TIM6.1, IFM6.1, IFM6.2, SIM6.1, SIM6.2, SIM6.3)