

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Peripheral Equipment

with type designation(s)
WAGO I/O-System 750/753

Issued to

WAGO Kontakttechnik GmbH & Co. KG
Minden, Germany

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	B
Humidity	B
Vibration	B
EMC	B
Enclosure	A

Issued at **Hamburg** on **2018-04-20**

for **DNV GL**

This Certificate is valid until **2023-01-11**.

DNV GL local station: **Magdeburg**

Approval Engineer: **Heinz Scheffler**

Joannis Papanuskas
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: **262.1-025787-2**
Certificate No: **TAA0000194**
Revision No: **1**

Product description

The WAGO-I/O-SYSTEM 750/753 is a modular, fieldbus independent I/O system.

The System including the following list of modules:

PFC100/200 Controller

0750-8100	PFC100 CS 2ETH ECO
0750-8101	PFC100 CS 2ETH
0750-8102	PFC100 CS 2ETH RS
0750-8202/*	PFC200 CS 2ETH RS
0750-8203	PFC200 CS 2ETH CAN
0750-8204	PFC200 CS 2ETH RS CAN
0750-8206	PFC200 CS 2ETH RS CAN DPS
0750-8208	PFC200 CS 2ETH RS CAN DPM

Fieldbus Controller

0750-0806	DeviceNet
0750-0812	Prog. Modbus/RS 485/150-19200 Bd
0750-0814	Prog. Modbus/RS 232/150-19200 Bd
0750-0815	Prog. Modbus/RS 485/1.2-115.2 kBd
0750-0816	Prog. Modbus/RS 232/1.2-115.2 kBd
0750-0831	BACnet/ IP
0750-0833	PROFIBUS
0750-0837/*	CANopen
0750-0838/*	CANopen
0750-0841/*	Ethernet 10/100 MBit/s
0750-0842/*	Ethernet
0750-0889	KNX IP with SD-card

Fieldbus Coupler

0750-0303/*	PROFIBUS DP/FMS 12 MBd
0750-0306/*	DeviceNet
0750-0312	Modbus/RS 485/150-19200 Bd
0750-0314	Modbus/RS 232/150-19200 Bd
0750-0315/*	Modbus/RS 485/1.2-115.2 kBd
0750-0316/*	Modbus/RS 232/1.2-115.2 kBd
0750-0323	PROFIBUS DP 12 MBd/Digital
0750-0333	PROFIBUS DP 12 MBd/DPV1
0750-0337/*	CANopen
0750-0341	ETHERNET TCP/IP 10/100 MBit
0750-0342	ETHERNET

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Digital Input (DI) Modules

0750-0400	2DI 24V DC 3.0ms
0750-0401	2DI 24V DC 0.2ms
0750-0402	4DI 24V DC 3.0ms
0750-0403	4DI 24V DC 0.2ms
0750-0405	2DI 230V AC
0750-0406	2DI 120V AC
0750-0410	2DI 24V DC 3.0ms Proxi Sensor
0750-0411	2DI 24V DC 0.2ms Proxi Sensor
0750-0415	4DI 24V AC/DC 20ms
0750-0418	2DI 24V DC 3.0ms/Diagn./Acknol.
0750-0421	2DI 24V DC 3.0ms/Diagn.
0750-0423	4DI 24V AC/DC S.E.
0750-0424	2DI Intruder Detection
0750-0430	8DI 24V DC 3.0ms
0750-0431	8DI 24V DC 0.2ms
0750-0432	4DI 24V DC 3.0ms/ 2-wire
0750-0433	4DI 24V DC 0.2ms/ 2-wire
0750-0435	1DI NAMUR Ex i
0750-0436	8DI 24V DC 3.0ms/LS-Switch
0750-0437	8DI 24V DC 0.2ms/LS-Switch
0750-0438	2DI NAMUR Ex i
0753-0419	2DI 24V DC 3.0ms/Diagn.

Digital Output (DO) Modules

0750-0501/*	2DO 24V DC 0.5A
0750-0502/*	2DO 24V DC 2.0A
0750-0504/*	4DO 24V DC 0.5A
0750-0508/*	2DO 24V DC 2.0A/Diagn.
0750-0509	2DO 230V AC 0.3A Sol. St.
0750-0512	2DO 250V AC 2.0A Rel.2NO
0750-0513	2DO 250V AC 2.0A Rel.2NO Pot.-Free
0750-0514	2DO 125V AC 0.5A Rel.2CO Pot.-Free
0750-0516	4DO 24V DC 0.5A Negative
0750-0517	2DO 250V AC 1.0A Rel.2CO Pot.-Free
0750-0523	1DO 230V AC 16A REL 1A Pot.-Free
0750-0530	8DO 24V DC 0.5A
0750-0531/*	4DO 24V DC 0.5A/ 2-wire
0750-0535	2DO 24V DC Ex i
0750-0536	8DO 24V DC 0.5A/LS-Switch
0750-0537	8DO 24V DC 0.5A/Diagn.

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Analogue Input (AI) Modules

0750-0450	4AI RTD / adj.
0750-0451	8AI RTD / adj.
0750-0452/*	2AI 0-20mA Diff.
0750-0453	4AI 0-20mA S.E.
0750-0454/*	2AI 4-20mA Diff.
0750-0455/*	4AI 4-20mA S.E.
0750-0456/*	2AI $\pm 10V$ DC
0750-0457	4AI $\pm 10V$ DC S.E.
0750-0458	8AI Thermo / Diagn. / adj.
0750-0459	4AI 0-10V DC S.E.
0750-0461/*	2AI PT100 (RTD)
0750-0462/*	2AI Thermocouple (K)
0750-0468/*	4AI 0-10V DC S.E.
0750-0469/*	2AI Thermocouple K Diagn.
0750-0470/*	2AI 0-20mA S.E/ s.c. protec.
0750-0471	4AI U/I Diff Galv
0750-0472/*	2AI 0-20mA 16Bit S.E.
0750-0473/*	2AI 4-20mA S.E./s.c. protec.
0750-0474/*	2AI 4-20mA 16Bit S.E.
0750-0476/*	2AI $\pm 10V$ DC 16Bit S.E.
0750-0478/*	2AI 0-10V DC 16Bit S.E.
0750-0479/*	2AI $\pm 10V$ DC Measurement Input
0750-0481/0003-0000	2AI RTD Ex i
0750-0483	2AI 0-30V DC DIFF./ Measur. Inp.
0750-0485	2AI 4-20MA Ex i
0750-0486	4AI 0/4-20mA Ex i
0750-0494/*	3-Phase Power Measurement 480V/ 1A
0750-0495/*	3-Phase Power Measurement 690V/ 1A
0750-0496	8AI 0-20mA / 4-20mA S.E.
0750-0497	8AI 0-10V/ $\pm 10V$ S.E.

Analogue Output (AO) Modules

0750-0550/*	2AO 0-10V DC
0750-0552/*	2AO 0-20mA
0750-0553	4AO 0-20mA
0750-0554/*	2AO 4-20mA
0750-0555	4AO 4-20mA
0750-0556/*	2AO $\pm 10V$ DC
0750-0557	4AO $\pm 10V$ DC
0750-0559/*	4AO 0-10V DC
0750-0585	2AO 0-20MA Ex i

Interface Modules

0750-0650/*	RS 232 C
0750-0651/*	TTY
0750-0653/*	RS 485
0750-0655	AS-INTERFACE MASTER
0753-0646	KNX/EIB/TP1
0753-0647	DALI Multi Master

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Special Modules

0750-0404/*	Up/Down Counter
0750-0600	End Module
0750-0608	Trimmer-Module/1k/±12V DC
0750-0614	Potential Multiplication Module
0750-0616	Distance Module
0750-0654/*	Data Exchange Module
0753-0110	Connector
0753-0620	DALI Multi Master DC/DC Converter

Power Supply Modules

0750-0601	24V DC Power Supply (Fuse)
0750-0602	24V DC Power Supply
0750-0609	230V AC Power Supply (Fuse).
0750-0610	24V DC Power Supply (Fuse. Diagn.)
0750-0611	230V AC Power Supply (Fuse. Diagn.)
0750-0612	0-230V AC/DC Power Supply
0750-0613	24V DC Power Supply (Bus)
0750-0624	24V DC Field Supply Filter (Surge)
0750-0626	24V DC Supply Filter (Surge)

Safety Modules

0750-0667/*	4FDI/4FDO 24V/2A PROFIsafe V2 iPar
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Accessory

0750-0960	Fieldbus Connector PROFIBUS
0750-0963	Fieldbus Connector CANopen
0750-0970	Fieldbus Connector PROFIBUS PG-Int.
0750-0975	Fieldbus Connector Ethernet RJ45 IP20

/* means: WAGO I/O System 0750/0753 includes modules of type 0750-xxxx and 0753-xxxx. The function of the type 0753-xxxx is the same as 0750-xxxx, type 0753-xxxx uses a pluggable wiring connector 0753-0110. Both types are available with a suffix extension which consists up to 16 digits (xxxx-xxxx/xxxx-xxxx). The suffix extensions mean a variant which describes in e.g. firmware, process image, measuring range or default.

Programming Software:

759-332: WAGO-I/O-Pro 32#
759-333: WAGO-I/O-Pro CAA

Application/Limitation

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

EX-certification is not covered by this certificate.

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Type Approval documentation

Test reports: 1027-07-GG-07-PP001, 1027-07-GG-07-PP002, 1027-07-GG-07-PP003, 12 ATEX 106032 X, 140034-02-01A-05-e, 140034-03-01B-02_2.1, 140034-05-01A-05-e_1.1., EK0005_05, EK0007_05, EK0016_05, EK0016_1_00, EK0016_2_00, EK0016_3_00, EK0016_4_00, EK0016_5_00, EK0021_04, EK0025_05, EK0027_01_05, EK0027_02_05, EK0027_03_05, EK0027_04_05, EK0027_05_05, EK0054_03, EK0054_1_03, EMVP06_0412, EMPV07_0387, EMVP08_0139, EMVP08_0417, EMVP08_0479, EMVP09_0280, EMVP09_0640, EMVP10_0061, EMVP10_0131, EMVP10_0366, EMVP11_0170_V1, EMVP13_0202, EMVP13_0217, EMVP14_0130, EMVP15_0047, EMVP15_0048, EMVP15_0051, EMVP17_0010, LB15468, LB15469, LB15470, LB17215, LB17580, LB18616, TR00_0206-01, TR00_0206-02, TR00_0206-03, TR00_0206-04, TR00_0206-05, EMVP17_0029, LB_28619, EMVP17_0030, LB29228, EMVP17_0027, LB29062, EMVP12_0365, 28623, 28618, 28866, 28535, 28865, 28529

Documents: Document List MC999999_Cert17_012, Rev. 5.0

Tests carried out

Applicable tests according to Class Guideline DNVGL-CG-0339, Edition November 2016.

Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- 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



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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.

This certificate is issued to:

PRODUCER WAGO Kontakttechnik GmbH & Co. KG
Hansastraße 27
32423 Minden
Germany

DESCRIPTION WAGO I/O-SYSTEM

TYPES 750, 753, 758 and 762

Comprising of the following modules:

Power Supply Unit
787-913

Power Supply Unit 230V AC/ 24V DC

IPC – Industrial Compact PC

758-870	WAGO-I/O-IPC
758-870/000-001	WAGO-I/O-IPC (with Profibus Master)
758-870/000-004	WAGO-I/O-IPC (with Profibus Slave)
758-870/000-110*	WAGO-I/O-IPC-G2 Linux 2.6 CoDeSys Visu without Fieldbus
758-870/000-111*	WAGO-I/O-IPC-G2 Linux 2.6 CoDeSys Visu PROFIBUS DB Master
758-870/000-112*	WAGO-I/O-IPC-G2 Linux 2.6 CoDeSys Visu CANopen Master
758-870/000-130*	WAGO-I/O-IPC-G2 Linux 2.6 CoDeSys Visu Telecontrol
758-875/000-110*	WAGO-I/O-IPC-C10 E Linux 2.6 CoDeSys Visu
758-875/000-111*	WAGO-I/O-IPC-C10 E Linux 2.6 CoDeSys Visu Profibus DP Master
758-875/000-112*	WAGO-I/O-IPC-C10 E Linux 2.6 CoDeSys Visu CANopen Master
758-875/000-130*	WAGO-I/O-IPC-G10 E Linux 2.6 CoDeSys Visu Telecontrol

Certificate No. 02/20026 (E5)

Issue Date 23 June 2017

Expiry Date 19 February 2022

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Type Continuation

Perspecto

762-1035*	Web Panel WP 35 QVGA
762-3035*	Control-Panel CP 35 QVGA
762-3035/000-001*	Control Panel CP 35 QVGA TV
762-1057*	Web Panel WP 57 QVGA
762-3057*	Control-Panel CP 57 QVGA
762-3057/000-001*	Control Panel CP 57 QVGA TV

Fieldbus Coupler

750-303	Fieldbus Coupler PROFIBUS DP/FMS 12 MBd.
750-306	Fieldbus Coupler DeviceNet
750-306/000-001	Fieldbus Coupler DeviceNet (without statusbyte)
750-306/000-005	Fieldbus Coupler DeviceNet (digital without status)
750-306/000-006	Fieldbus Coupler DeviceNet (analogue/digital without status)
750-306/000-007	Fieldbus Coupler DeviceNet (bitstrobe)
750-312	Fieldbus Coupler ModBus RS485 (150-19200 Bd.)
750-314	Fieldbus Coupler ModBus RS232 (150-19200 Bd.)
750-315	Fieldbus Coupler ModBus RS485 (1.2-115.2 KBd.)
750-316	Fieldbus Coupler ModBus RS232 (1.2-115.2 KBd.)
750-323	Fieldbus Coupler PROFIBUS DP 12 MBd. (digital)
750-327	Fieldbus Coupler CANopen (digital)
750-333	Fieldbus Coupler PROFIBUS DP/V1 12 MBd.
750-337	Fieldbus Coupler CANopen
750-341	Fieldbus Coupler Ethernet 100Mbit/s
750-342	Fieldbus Coupler ETHERNET TCP/IP 10 MBd.
750-343*	Profibus DP ECO 12MBAud [passed only EMC2]
750-347*	CanOpen ECO MSS [passed only EMC2]
750-348*	CanOpen ECO D-Sub [passed only EMC2]
750-351*	SERCOS III Coupler
750-352	ETHERNET Fieldbus Coupler

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Types (continued)

Fieldbus Controller

750-806	Contr. DeviceNet
750-812	Programmable Fieldbus Controller ModBus RS485 (150-19200 Bd.)
750-814	Programmable Fieldbus Controller ModBus RS232 (150-19200 Bd.)
750-815	Programmable Fieldbus Controller ModBus RS485 (1.2-115.2 KBd.)
750-816	Programmable Fieldbus Controller ModBus RS232 (1.2-115.2 KBd.)
750-830*	BACNet/ IP-Controller
750-833	Programmable Fieldbus Controller PROFIBUS DP/V1 12 MBd.
750-837	Programmable Fieldbus Controller CANopen
750-838*	CANopen Fieldbus Controller D-Sub
750-838/020-000*	CANopen Fieldbus Controller D-Sub
750-838/021-000*	CANopen Fieldbus Controller D-Sub
750-841	Programmable Fieldbus Controller ETHERNET 100Mbit/s
750-842	Programmable Fieldbus Controller ETHERNET TCP/IP 10 MBd
750-843	ETHERNET TCP/IP 10 Mbit Programmable Fieldbus controller
750-849*	KNX/IP-Controller
750-871*	Ethernet TCP/IP-Controller 2 Port
750-873*	Ethernet TCP/IP RS232 Controller
750-880	ETHERNET Programmable Fieldbus controller
750-880/025-000*	ETHERNET Controller/T
750-881	ETHERNET Programmable Fieldbus controller
750-882	Media redundancy ETHERNET Programmable Fieldbus controller

Digital Input Modules

750-400, 753-400*	2DI 24V DC 3.0 ms
750-401, 753-401*	2DI 24V DC 0.2 ms
750-402, 753-402*	4DI 24V DC 3.0 ms
750-403, 753-403*	4DI 24V DC 0.2 ms
750-405, 753-405*	2DI 230V AC
750-406, 753-406*	2DI 120V AC
750-408*, 753-408*	4DI 24V DC 3.0ms
750-410, 753-410*	2DI 24V DC 3.0ms proximity switch
750-411, 753-411*	2DI 24V DC 0.2ms proximity switch

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Types (continued)

Digital Input Modules

750-415, 753-415*	4DI 24V AC/DC 20 ms
750-418, 753-418*	2DI 24V DC 3.0ms Diagnosis/ Acknowledgement
750-419	2DI 24V DC 0.2ms Diagnosis
750-421, 753-421*	2DI 24V DC 3.0ms Diagnosis
750-423*, 753-423*	4DI 24V AC/DC 50ms
750-424, 753-424*	2DI 24V DC Wire Break Detection
750-425*, 753-425*	2DI Namur
750-430, 753-430*	8DI 24V DC 3.0ms
750-431, 753-431*	8DI 24V DC 0.2ms
750-432, 753-432*	4DI 24V DC 3.0ms 2-Wire
750-433, 753-433*	4DI 24V DC 0.2ms 2-Wire
750-435	1DI NAMUR Ex i
750-436, 753-436*	8DI 24V DC 3.0ms LS switch
750-437, 753-437*	8DI 24V DC 0.2ms LS switch
750-438	2DI NAMUR Ex i
750-1400*	16DI 24V DC 3.0ms ribbon cable
750-1402*	16DI 24V DC 3.0ms ribbon cable, neg. switching
750-1405*	16DI 24V DC 3.0ms CCS
750-1406*	16DI 24V DC 0.2ms CCS, pos switching
750-1407*	16DI 24V DC 3.0ms CCS, neg. switching
750-1415*	8DI 24V DC 3.0ms CCS, 2wire
750-1416*	8DI 24V DC 0.2ms CCS, 2wire
750-1417*	8DI 24V DC 3.0ms CCS, neg. switching, 2wire
750-1418*	8DI 24V DC 0.2ms CCS, neg. switching, 2wire
750-1420*	4DI 24V DC 3.0ms CCS, 3wire
750-1421*	4DI 24V DC 0.2ms CCS, 3wire
750-1422*	4DI 24V DC 3.0ms CCS, neg. switching, 3wire
750-1423*	4DI 24V DC 0.2ms CCS, neg. switching, 3wire

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Types (continued)

Digital Output Modules

750-501, 753-501*	2DO 24V DC 0.5 A
750-501/000-800*	2DO 24V DC 0.5 A
750-502, 753-502*	2DO 24V DC 2.0 A
750-502/000-800*	2DO 24V DC 2.0 A
750-504, 753-504*	4DO 24V DC 0.5 A
750-504/000-800*	4DO 24V DC 0.5 A
750-507, 753-507*	2DO 24V DC 2.0A Diagnosis
750-508, 753-508*	2DO 24V DC 2.0A Diagnosis
750-508/000-800*	2DO 24V DC 2.0A Diagnosis
750-509, 753-509*	2DO 230V AC/DC 0.3 A Solid State Relay
750-512, 753-512*	2DO 230V AC 2 A Relay 2NO
750-513, 753-513*	2DO 230V AC 2 A Relay 2NO (potential free)
750-513/000-001*	2DO 230V AC 2.0A
750-514*, 753-514*	2DO 125V AC
750-516, 753-516*	4DO 24V DC 0.5A Negative
750-517, 753-517*	2DO 230V AC 1A Relay 2CO (potential free)
750-523*	1DO 230V AC 16A
750-530, 753-530*	8DO 24V DC 0.5A
750-531, 753-531*	4DO 24V DC 0.5A 2-Wire
750-531/000-800*	4DO, 24V DC, 0.5A, 2-wire
750-532	4DO 24V DC 0.5 A Diagnostics
750-535	2DO 24V DC Ex i
750-536, 753-536*	8DO 24V DC 0.5A LS switch
750-537	8DO 24V DC 0.5A Diagnosis
750-1500*	16DO 24V DC 0.5A, ribbon cable
750-1501*	16DO 24V DC 0.5A ribbon cable, neg. switching
750-1504*	16DO 24V DC 0.5A CCS
750-1505*	16DO 24V DC 0.5A CCS, neg. switching
750-1515*	8DO 24V DC 0.5A CCS, 2wire
750-1516*	8DO 24V DC 0.5A CCS, neg. switching, 2wire

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Types (continued)

Analogue Input Modules

750-1502*	8DI/8DO 24V DC 0,5A, ribbon cable
750-1506*	8DI/8DO 24V DC 0,5A, CCS
750-452, 753-452*	2AI 0-20 mA Differential
750-452/000-200	2AI 0-20 mA Differential (status bits)
750-453, 753-453*	4AI 0-20 mA Single Ended
750-454, 753-454*	2AI 4-20 mA Differential
750-454/000-200	2AI 4-20 mA Differential (status bits)
750-455, 753-455*	4AI 4-20 mA Single Ended
750-456, 753-456*	2AI +/-10V DC
750-456/000-200	2AI +/-10V DC (status bits)
750-457, 753-457*	4AI +/-10V DC Single Ended
750-459, 753-459*	4AI 0-10V DC Single Ended
750-461, 753-461*	2AI PT100 RTD
750-461/000-002	2AI Ohmmeter 10R-1K2
750-461/000-003	2AI PT1000 RTD
750-461/000-004	2AI NI100 RTD
750-461/000-005	2AI NI1000 RTD
750-461/000-006	2AI PT100 RTD (temperature drift optimised)
750-461/000-007	2AI Ohmmeter 10R-5K0
750-461/000-200	2AI PT100 RTD (status bits)
750-461/003-000	2AI RTD (adjustable)
750-462	2AI Thermocouple K
750-462/000-001	2AI Thermocouple S
750-462/000-002	2AI Thermocouple T
750-462/000-003	2AI +/-120 mV
750-462/000-006	2AI Thermocouple J
750-462/000-007	2AI Thermocouple B
750-462/000-008	2AI Thermocouple E
750-462/000-009	2AI Thermocouple N
750-462/000-010	2AI Thermocouple R
750-462/000-011	2AI Thermocouple U
750-462/000-012	2AI Thermocouple L

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Types (continued)

Analogue Input Module

750-462/000-050	2AI Thermocouple K (without cold junction compensation)
750-462/000-061	2AI Thermocouple U (without cold junction compensation)
750-464	2-/4-AI for RTD
750-464/020-000	4AI for NTC
750-468	4AI 0-10V DC Single Ended
750-468/000-200	4AI 0-10V DC Single Ended (status bits)
750-469, 753-469*	2AI Thermocouple K with Diagnostic
750-469/000-001	2AI Thermocouple S with Diagnostic
750-469/000-002	2AI Thermocouple T with Diagnostic
750-469/000-003	2AI +/-120 mV with Diagnostic
750-469/000-006	2AI Thermocouple J with Diagnostic
750-469/000-007	2AI Thermocouple B with Diagnostic
750-469/000-008	2AI Thermocouple E with Diagnostic
750-469/000-009	2AI Thermocouple N with Diagnostic
750-469/000-010	2AI Thermocouple R with Diagnostic
750-469/000-011	2AI Thermocouple U with Diagnostic
750-469/000-012	2AI Thermocouple L with Diagnostic
750-469/000-050	2AI Thermocouple K with Diagnostic (without cold junction compensation)
750-469/000-051	2AI Thermocouple S with Diagnostic (without cold junction compensation)
750-469/000-062	2AI Thermocouple L with Diagnostic (without cold junction compensation)
750-469/000-200	2AI Thermocouple K with Diagnostic (status bits)
750-469/000-202	2AI Thermocouple T with Diagnostic (status bits)
750-469/000-206	2AI Thermocouple J with Diagnostic (status bits)
750-469/003-000	2AI Thermocouple (adjustable)
750-470	2AI 0-20mA Single Ended 50Hz
750-470/005-000	2AI 0-20mA Single Ended 60Hz
750-472, 753-472*	2AI 0-20 mA 16 Bit Single Ended
750-472/000-200	2AI 0-20 mA 16 Bit Single Ended (status bits)
750-472/005-000	2AI 0-20mA 16Bit Single Ended 60Hz

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Types (continued)

Analogue Input Module

750-473	2AI 4-20mA Single Ended 50Hz
750-473/005-000	2AI 4-20mA Single Ended 60Hz
750-474, 753-474*	2AI 4-20 mA 16 Bit Single Ended
750-474/000-002	2AI 4-30mA 16 Bit Single Ended
750-474/000-200	2AI 4-20 mA 16 Bit Single Ended (status bits)
750-474/005-000	2AI 4-20mA 16 Bit Single Ended 60Hz
750-475, 753-475*	2AI 0-1A ac/dc
750-475/020-000	2AI 0-5A ac/dc
750-476, 753-476*	2AI $\pm 10V$ DC 16 Bit Single Ended
750-476/000-200	2AI $\pm 10V$ DC 16 Bit Single Ended (status bits)
750-476/005-000	2AI $\pm 10V$ DC 16 Bit Single Ended 60Hz
750-478, 753-478*	2AI 0-10V DC 16 Bit Single Ended
750-478/000-200	2AI 0-10V DC 16 Bit Single Ended (status bits)
750-478/005-000	2AI 0-10V DC 16 Bit Single Ended 60Hz
750-479, 753-479*	2AI $\pm 10V$ DC Differential Measurement
750-479/000-001	2AI $\pm 10V$ DC Differential Measurement (synchronous)
750-479/005-000	2AI $\pm 10V$ DC Differential Measurement 60Hz
750-481/003-000	2AI for resistance sensors, Ex i
750-483, 753-483*	2AI 0-30V DC Differential Measurement
750-484	2AI 4-20mA HART, Ex i
750-485	2AI 4-20mA Ex i
750-487/003-000*	2AI TC Ex i

Analogue Output Module

750-550, 753-550*	2AO 0-10V DC
750-550/000-200	2AO 0-10V DC (status bits)
750-552, 753-552*	2AO 0-20 mA
750-552/000-200	2AO 0-20 mA (status bits)
750-553, 753-553*	4AO 0-20 mA
750-554, 753-554*	2AO 4-20 mA
750-554/000-200	2AO 4-20 mA (status bits)
750-555, 753-555*	4AO 4-20 mA

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Types (continued)

Analogue Output Module

750-556, 753-556*	2AO $\pm 10V$ DC
750-556/000-200	2AO $\pm 10V$ DC (status bits)
750-557, 753-557*	4AO $\pm 10V$ DC
750-559, 753-559*	4AO 0-10V DC
750-585	2AO 0-20mA Ex i

Power Supply Modules

750-601	24V DC Power Supply with Fuse
750-602	24V DC Power Supply
750-603*, 753-603*	Field Side Connection DC 24V
750-604*, 753-604*	Field Side Connection DC 0V
750-606	24 V DC Power Supply, 1.0A Ex i
750-609	230V AC Power Supply with Fuse
750-610	24V DC Power Supply with Fuse and Diagnostic
750-611	230V AC Power Supply with Fuse and Diagnostic
750-612	0-230V AC/DC Power Supply
750-613	24V DC Internal System Power Supply
750-614, 753-614*	Field Side Connection Module AC/DC 0-230 V
750-623	24V DC / 5V – 15V
750-624	24V DC Field Supply Filter (surge)
750-624/020-000	Filter module, high isolation
750-625	24V DC Power Supply Ex i
750-625/000-001	24V DC Power Supply, 1.0A Ex i
750-626	24V DC Power Supply Filter (surge)
750-626/020-000	Filter module, high isolation
750-1605*	Potential Multiplication 16+
750-1606*	Potential Multiplication 16-
750-1607*	Potential Multiplication 8+/8-

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Types (continued)

Special Modules

750-404, 753-404*	Up/Down Counter
750-404/000-001	Up Counter (enable input)
750-404/000-002	Peak Time Counter
750-404/000-003	Frequency Counter (0.1Hz-100kHz)
753-404/000-003*	Frequency Counter (0.1Hz-100kHz)
750-404/000-004	Up/Down Counter (switch output)
750-404/000-005	2 Up Counter (16Bit)
750-404/020-003	Frequency Counter (0.1Hz-100kHz without outputs)
750-600	End module
750-608	Trimmer Module 1kOhm/ +/-12V DC
750-616	Separation Module
750-634*	Incremental Encoder Interface, 16 Bit
750-637*	Incremental Encoder Interface, 32 Bit
750-637/000-001*	Incremental Encoder Interface, 32 Bit differential
750-637/000-002*	Incremental Encoder Interface, 32 Bit single ended
750-637/000-004*	Incremental Encoder Interface, 32 Bit single ended/com output
750-641*	DALI/ DSI-Masterclamp
753-646*	KNX/TP1 Interface
750-650, 753-650*	Serial Interface RS232 C, 9600, n, 8, 1
750-650/000-001	Serial Interface RS232 C, 9600, n, 8, 1, 5 Byte
750-650/000-002	Serial Interface RS232 C, 9600, e, 7, 2
750-650/000-003	Serial Interface RS232 C, sync. bugfix
750-650/000-004	Serial Interface RS232 C, 4800, e, 7, 1
750-650/000-006	Serial Interface RS232 C, 9600, e, 8, 1
750-650/000-007	Serial Interface RS232 C, 4800, n, 8, 1
750-650/000-009	Serial Interface RS232 C, 2400, e, 8, 1
750-650/000-010	Serial Interface RS232 C, 19200, n, 8, 1
750-650/000-011	Serial Interface RS232 C, 19200, e, 8, 1
750-650/000-012	Serial Interface RS232 C, 2400, n, 8, 1
750-650/000-013	Serial Interface RS232 C, 4800, e, 7, 2
750-650/000-014	Serial Interface RS232 C, 2400, e, 7, 2
750-650/000-015	Serial Interface RS232 4800, e, 8, 1, 5 Byte

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Types (continued)

Special Modules

750-650/000-016	Serial Interface RS232 C, 9600, o, 7, 2, 5 Byte
750-650/000-017	Serial Interface RS232 C, 9600, e, 7, 1
750-650/000-018	Serial Interface RS232 C, 9600, n, 8, 1, 5 Byte (continuous)
750-650/000-019	Serial Interface RS232 C, 9600, n, 8, 2, 5 Byte
750-650/000-020	Serial Interface RS232 C, 9600, n, 8, 2
750-650/000-021	Serial Interface RS232 C, 1200, n, 8, 1
750-650/000-022	Serial Interface RS232 C, 19200, n, 8, 1, 5 Byte
750-650/000-023	Serial Interface RS232 C, 19200, e, 7, 1
750-650/003-000	Serial Interface RS232 C, (configurable)
753-650/003-000*	Serial Interface RS232 C, (configurable)
750-651	TTY Interface 9600, n, 8, 1
750-651/000-001	TTY Interface 9600, n, 8, 1, 5 Byte
750-651/000-002	TTY Interface 9600, e, 8, 1
750-651/000-003	TTY Interface 1200, n, 8, 1
750-651/000-004	TTY Interface 9600, o, 8, 1
750-651/000-005	TTY Interface 2400, e, 8, 1
750-651/000-006	TTY Interface 2400, o, 8, 1
750-651/000-007	TTY Interface 2400, e, 7, 1, 5 Byte
750-652	Serial Interface RS-232 / RS-485
750-652/025-000*	RS-232 / RS-485 configurable
750-653, 753-653*	Serial Interface RS485 9600, n, 8, 1
750-653/000-001	Serial Interface RS485 9600, e, 7, 2
750-653/000-002	Serial Interface RS485 9600, e, 8, 1
750-653/000-005	Serial Interface RS485 9600, e, 8, 1, half-duplex
750-653/000-006	Serial Interface RS485 19200, n, 8, 1, 5 Byte
750-653/000-007	Serial Interface RS485 2400, n, 8, 1
750-653/000-008	Serial Interface RS485 19200, o, 8, 1
750-653/000-009	Serial Interface RS485 9600, n, 8, 1, 5 Byte
750-653/000-010	Serial Interface RS485 4800, n, 8, 1
750-653/000-011	Serial Interface RS485 19200, 8, e, 1, 5 Byte
750-653/000-013	Serial Interface RS485 9600, e, 7, 1
750-653/000-014	Serial Interface RS485 9600, e, 8, 1, half-duplex (standard format)

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Types (continued)

Special Modules

750-653/000-018	Serial Interface RS485 9600, n, 8, 1, 5 Byte (continuous)
750-653/000-021	Serial Interface RS485 9600, e, 8, 1, 5 Byte, half-duplex (continuous)
750-653/003-000	Serial Interface RS485 (adjustable)
750-654	Data Exchange Module
750-654/000-001	Data Exchange Module (125kHz)
750-655*, 753-655*	AS-Interface Master

Connectors

750-960	Profibus D-Sub Male Connector (9 pole)
750-963*	CANOpen Connector
750-970	Profibus D-Sub Male/Female Connector (9 pole)
750-975*	Ethernet Connector
753-110*	Connector

Accessories

758-879/000-001	Memory card SD
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APPLICATION

Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4 (for Power Supply Unit type 787-913 categories ENV1, ENV2 and ENV3 only) as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 - 1996 (*2002)

ADDITIONAL TESTS Low temperature (0°C/2 hours)

STANDARD Manufacturer's specification

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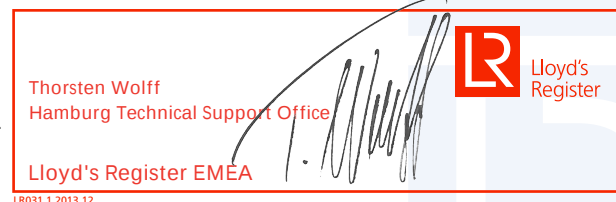
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The Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

If the specified standards are amended during the validity of this certificate, the product is to be re-approved prior to it being supplied to vessels to which the amended standards apply.

The Design Appraisal Document No. HTS/ETS 35462-17 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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File E175199
Project 96ME24094

Issued: April 2, 1997
Revised: November 29, 2013

REPORT

on

PROGRAMMABLE CONTROLLERS

Wago **Kontakttechnik** GmbH
Minden, Fed. Rep. of Germany

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DESCRIPTION

PRODUCT COVERED:

USL and CNL - Open type, Programmable controller, WAGO I/O System Series 750, 753 and 758. Consisting of the following modules/Cat. Nos.:

All series 750 represents series 753 except for the differences described in this procedure eg. 750-300 represents 753-300 etc.

<u>Designation</u>	<u>Module No.</u>	<u>Alternate Module No.</u>	<u>Fig. No.</u>
WAGO I/O System Bus Coupler	750-300		1
	750-301		2, 2B, 2C,
	750-302		2G, 2H, 2K,
	750-303		2L
	750-304		
	750-305		
	750-306		
	750-307		
	750-308		
	750-309		
	750-310	51247154	
	750-311		
	750-312		
	750-313		
	750-314		
	750-315		
	750-316		
	750-326		
	750-327		
	750-331		
	750-334		
	750-319		
	750-333	51247152	
	750-337	51205056	
	750-338		
	750-339		
	750-340		
	750-341		
	750-342		
	750-350		
	750-351		
	750-352/020-000		
	750-370		
	750-375		2M, 2N

750-804
750-806
750-837
750-812
750-814
750-815
750-816
750-819
750-830
750-831
750-833
750-837
750-838
750-841
750-842
750-843
750-849
750-852
750-860
750-863
750-871
750-872
750-873
750-880
750-881
750-882
750-884
750-885
758-870
758-874
758-875
758-876
750-8202
750-8203
750-8204
750-8206

2I
2J

20 & 2P

750-829
750-889
750-8100
750-8101
750-8102
750-8202/040-000
750-8202/040-001
750-8206/040-000
750-8206/040-001

<u>Designation</u>	<u>Module No.</u>	<u>Alternate Module No.</u>	<u>Fig. No.</u>
<u>Bus Supply Module</u>	<u>750-613</u> <u>750-613/040-000</u>	<u>51244880</u>	
<u>Economy Bus coupler</u>	<u>750-320</u> <u>750-323</u> <u>750-324</u>		<u>2A, 2D, 2E</u>
<u>Economy Bus coupler</u>	<u>750-343</u> <u>750-344</u> <u>750-345</u> <u>750-346</u> <u>750-347</u> <u>750-348</u> <u>750-352</u> <u>750-354</u> <u>750-354/000-001</u> <u>750-377</u>	<u>51205055</u> <u>51247153</u>	<u>2F</u>
Digital Input Module	750-403 750-400 750-401 750-402 750-618 750-408 750-409 750-412 750-413 750-422 750-429 750-432 750-433 750-440	51205054	3, 3B

*

Digital Input Module	750-410		3A
	750-411		
	750-430	51205053	3C, 3D
	750-431	51205052	
	750-434		
Counter Module	750-404	51244881	4
Digital Input Module	750-405		5, 5A
	750-406		
	750-407		
Supply Module	750-619		
	750-620		
Analog Input Module	750-450		6, 6A
	750-451		
	750-452		
	750-453		
	750-454		
	750-455	51205051	
	750-455/020-000		
	750-456		
	750-457	51205050	
	750-458		
	750-459	51205049	
	750-460		
	750-461	51205048	
	750-462		
	750-463		
	750-464		
	750-465		
	750-466	51205047	
	750-467	51205046	
	750-468		
	750-469		

<u>Designation</u>	<u>Module No.</u>	<u>Alternate Module No.</u>	<u>Fig. No.</u>
Digital Output Module	750-504	51205045	7, 7A, 7B
	750-501		
	750-506		
	750-531		
Digital Output Module	750-502		8, 8A, 8B
	750-507		
	750-508		8C
	750-508/040-000		
Digital Output Module	750-509		9
	750-518		
Digital Output Module	750-511		10
Relay Output Module	750-512		11
	750-513	51205044	
Relay Output Module	750-514		12
Analog Output Module	750-552		13, 13A
	750-550	51205042	
	750-551		
	750-553		
	750-554	51205041	
	750-555	51205040	
	750-556		
	750-557	51205039	
	750-559	51205038	
	750-560		
	750-562		
	750-563		
Supply Module	750-612		14, 14A
	750-612/040-000		
	750-602	51205036	
	750-602/040-000		
	750-603		
	750-604		
	750-614		
	750-623		
	750-1605		14B
	750-1606		
	750-1607		
	750-1605/040-000		
	750-1606/040-000		
Supply Module	750-601		15
	750-610		
Supply Module	750-609		16, 16A
	750-611		
	750-615		
	750-617		
Interface Module	750-630	51205057 51214834	17

<u>Designation</u>	<u>Module No.</u>	<u>Alternate Module No.</u>	<u>Fig. No.</u>
Interface Module	750-631		18
	750-650		19
	750-651		
	750-652		
	750-652/040-000		
	750-653		
	750-654		19A
End Module	750-600	51205037	20
	750-600/040-000		20A
Input Module	750-414		21
Output Module	750-519		21
Digital Input Module	750-415		22
	750-423		
	750-428		
Analog Input Modules	750-472		23
	750-474		
	750-476		
	750-478		
Digital Output Module	750-516		24
Relay Output Module	750-517		25
	750-517/040-000		
Separation Module	750-621		26
	750-616		
	750-616/040-000		
	750-629		
Binary Spacer Module	750-622		27
	750-1629		
Counter Module	750-417		28
	750-638		
Digital I/O Module	750-419		29
	750-418		
	750-421		
Intruder Detection Module	750-424		30

<u>Designation</u>	<u>Module No.</u>	<u>Alternate Module No.</u>	<u>Fig. No.</u>
Analog Input Module	750-480 750-482 750-483 750-471 750-479 750-492 750-492/040-001 750-496 750-497		31
Digital Output Module	750-522		32
Interface Module	750-637	51205116	33
Digital Input Module	750-425 750-427 750-427/040-000 750-429/040-001		34 35
Digital Output Module	750-530 750-534	51205043	36
Analog Input Module	750-475 750-477		37
Interface Module	750-635		38

Digital Output Module	750-523	39
Filter Module	750-624 750-624/040-001 750-626 750-626/040-000	40
Digital Input Module	750-435 750-438 750-439	41, 41A 41B
Digital Input Module	750-436 750-437	42
Analog Input Module	750-470 750-473	43
Analog Input Module	750-485 750-484 750-487	44A, 44B
Digital Output Module	750-532	45
Digital Output Module	750-535 750-538	46 46A
Digital Output Module	750-536	47

<u>Designation</u>	<u>Module No.</u>	<u>Alternate Module No.</u>	<u>Fig. No.</u>
Digital Output Module	750-537		48
Analog Output Module	750-585		49A, 49B
	750-586		
Analog Output Module	750-608		50
Reserved			51
RTC Module	750-640		52
Interface Module	750-641		53
	753-646		
	753-647		
	753-648		
Interface Module	750-642		54A, 54B
	750-644		
Interface Module	750-655		55
Digital Input Module	750-660		56A, 56B
	750-661		
	750-662		
	750-663		57D
Digital Output/Input Module	750-665		57A, 57B
	750-666		57C
	750-667		
Field bus connector	750-960		58
	750-961		
	750-962		
	750-963		
	750-965	51229864	
	750-970		
Analog Input Module	750-481		59
Supply Module	750-625		60
Digital Output Module	750-524		61
Interface Module	750-643		62
	750-658		62A
Stepper Controller	750-670		63
RS-422 Module			
Digital Output Module	750-540		64
Analog Input / Digital Output Module	750-645		65
Internal Data Bus Extension	750-627		65A

Designation	Module No.	Alternate Module No.	Fig. No.
Digital Input Modules	750-1400 750-1402 750-1405 750-1406 750-1407 750-1415 750-1416 750-1416/040-000 750-1417 750-1418 750-1420 750-1421 750-1422 750-1423		66
Digital Output Modules	750-1500 750-1501 750-1504 750-1505 750-1515 750-1516		67
Digital Input / Digital Output Module	750-1502 750-1506 750-657 750-632		68 68A 68B 68C
Supply Module	750-606 750-625/000-001		69
3-Phase Measuring Module	750-493 750-494 750-494/000-005		70
Counter	750-633		71 71A
Bus Coupler	750-333/040-000 750-338/040-000 750-352/040-000 750-838/040-000 750-880/040-000 750-880/040-001		72
Digital Input Module	750-407/040-000 750-1405/040-000 750-1415/040-000		73 74

GENERAL:

The WAGO I/O System is a field bus independent Bus system which can be used for solving extended automation tasks such as storing signals for push buttons, evaluating the position of selector switches, processing signals from limit and safety switches and other programmable controllers, counting low-frequency pulses, controlling motor valves, actuators, etc.

These devices have only been investigated with respect to risk of fire and electrical shock in accordance with UL508 and CSA C22.2 No. 142.

The WAGO I/O System is an open type device.

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE'S USE):

USL - Indicates Investigated to United States Standard(s) UL508.

CNL - Indicates Investigated to Canadian National Standard(s) C22.2 No. 142

Note: CNL: Canadian National Standards - Listed
USL: United States Standards - Listed

ELECTRICAL RATINGS:

All series 750 represents series 753 except for the differences described in this procedure eg. 750-300 represents 753-300 etc.

For alternative module numbers listed under "Product Covered" refer to the ratings of the original module type.

Bus Coupler

750-300, 750-301 24 V dc
750-302, 750-303
750-304, 750-305
750-306, 750-307
750-306, 750-307
750-308, 750-309
750-310,
750-311, 750-312
750-313, 750-314
750-315, 750-316
750-326, 750-327
750-331, 750-334
750-319, 750-333
750-337, 750-338
750-339, 750-340,
750-341, 750-342,
750-350, 750-351,
750-352/020-000, 750-370
750-375

Bus Controller

24 Vdc

750-803

750-804, 750-806

750-837, 750-812

750-814, 750-815

750-816, 750-819,

750-829

750-830, 750-831

750-833

750-838, 750-841

750-842, 750-843

750-849, 750-852

750-860,

750-863, 750-871

750-872, 750-873,

758-874, 758-875,

758-876, 750-880,

750-881, 750-882

750-884, 750-885

750-889, 750-8100**750-8101, 750-8102**

750-8202,

750-8202/040-000**750-8202/040-001**

750-8203

750-8204, 750-8206

750-8206/040-000**750-8206/040-001**

758-870

24 Vdc

Max 50°C

750-333/040-000

24 Vdc

750-338/040-000

24 Vdc

750-352/040-000

24 Vdc

750-838/040-000

24 Vdc

750-880/040-000

24 Vdc

750-880/040-001

24 Vdc

*

Economy Bus Coupler

750-320, 750-323 24 Vdc
 750-324, 750-343
 750-344, 750-345
 750-346, 750-347
 750-348, 750-352,
 750-354, 750-354/000-001
 750-377

Digital Input Modules

750-403	24 V dc	4 channels
750-400	24 V dc	2 channels
750-401	24 V dc	2 channels
750-402	24 V dc	4 channels
750-405	230 V ac	2 channels
750-406	120 V ac	2 channels
750-407	220 V DC	2 channels
750-618	24 V dc	2 channels
750-408	24 V dc	4 channels
750-409	24 V dc	4 channels
750-410	24 V dc	2 channels
750-411	24 V dc	2 channels
750-415	24 V ac/dc	4 channels
750-414	5 V dc	4 channels
750-412	48 V dc	2 channels

750-413	48 V dc	2
750-422	24 V dc	4
750-428	42 V	4
750-429	60 V dc	2

750-430	24 V dc	8
750-431	24 V dc	8
750-432	24 V dc	4
750-433	24 V dc	4
750-434	5 / 12 V	8
750-435	24 V dc	1
750-436	24 V dc	8
750-437	24 V dc	8
750-438	24 V dc	2
750-439	24 V dc	8
750-440	120 / 230 V ac	4 channels

750-423	24 V	4
750-425	24 V dc	2
750-427	110 V dc	2

Digital Input Modules

750-427/040-000	110 V dc	2 channels
750-429/040-001	60 V dc	2 channels
750-484	24 V dc	2 channels
750-485	24 V dc	2 channels
750-487	24 V dc	2 channels
750-660	24 V dc	8 channels
750-661	24 V dc	4 channels
750-662	24 V dc	8 channels
750-663	24 V dc	4 channels
750-407/040-000	220 V dc	2 channels
750-1405/040-000	24 V dc	16 channels
750-1415/040-000	24 V dc	8 channels
750-1416/040-000	24 V dc	8 channels

Analog Input Modules

750-450		4 channels
750-451		8 channels
750-452	24 V dc	2 channels
750-453	24 V dc	4 channels
750-454	24 V dc	2 channels
750-455	24 V dc	4 channels
750-456	24 V dc	2 channels
750-457	24 V dc	4 channels
750-458		8 channels
750-459	24 V dc	4 channels
750-460	24 V dc	4 channels
750-461	24 V dc	2 channels
750-462	24 V dc	2 channels
750-463	24 V dc	2/4 channels
750-464	24 V dc	2/4 channels
750-465	24 V dc	2 channels
750-466	24 V dc	2 channels
750-467	24 V dc	2 channels
750-468	24 V dc	4 channels
750-469	24 V dc	2 channels
750-470	24 V dc	2 channels
750-472	24 V dc	2 channels
750-473	24 V dc	2 channels
750-474	24 V dc	2 channels
750-476	24 V dc	2 channels
750-477	24 V dc	2 channels
750-478	24 V dc	2 channels
750-480	24 V dc	2 channels
750-482	24 V dc	2 channels
750-471	24 V dc	2 channels
750-479	24 V dc	2 channels
750-481	24 V dc	2 channels
750-483	24 V dc	2 channels
750-475	24 V dc, 1A	2 channels
750-475/020-	24 V dc, 5A	2 channels

Analog Input Modules (Cont'd)

750-492	24 V dc	2 channels
750-492/040-001		2 channels
750-496	24 V dc	8 channels
750-497	24 V dc	8 channels
750-453/040-000	24 V dc	4 channels
750-455/040-000	24 V dc	4 channels
750-457/040-000	24 V dc, $\pm 10V$	4 channels
750-464/040-000	24 V dc	4 channels
750-468/040-000	24 V dc, 0-10 V	4 channels
750-469/040-000	24 V dc	2 channels

Digital Output Modules

750-501	24 V dc	0.5 A G.P.	2 channels
750-504	24 V dc	0.5 A G.P.	4 channels
750-506	24 V dc	0.5 A G.P.	2 channels
750-502	24 V dc	2 A G.P.	2 channels
750-507	24 V dc	2 A G.P.	2 channels
750-508	24 V dc	2 A G.P.	2 channels
750-508/040-000	24 V dc	2 A G.P.	2 channels
750-509	230 V ac	0.3 A G.P.	2 channels
750-509/020-000	120 V ac/dc	0.3 A G.P.	2 channels
750-516	24 V dc	0.5 A RES	4 channels
750-518	115 V ac	0.5 A RES	2 channels
750-519	5 V dc	20 mA RES	4 channels
750-522	230 V ac	0.5 A G.P.	2 channels
750-530	24 V dc	0.5 A G.P.	8 channels
750-531	24 V dc	0.5 A G.P.	4 channels
750-532	24 V dc	0.5 A G.P.	4 channels
750-534	12 / 14 V dc	1 A G.P.	8 channels
750-535	24 V dc	40 mA G.P.	2 channels
750-536	24 V dc	0.5 A G.P.	8 channels
750-537	24 V dc	0.5 A G.P.	8 channels
750-538	125 V ac / 30 V dc	0.5 A G.P. / 1 A G.P.	2 channels
750-523	230 V ac	16 A RES	1 channel
750-512	230 V ac	2 A G.P.	2 channels
750-513	230 V ac	2 A G.P.	2 channels
750-514	125 V ac	0.5 A G.P.	2 channels
750-517	230 V ac	1 A RES	2 channels
750-517/040-000	230 V ac /	1 A G.P.	2 channels
750-524	230 V ac	10 A G.P.	1 channel
750-540	120 / 230 V ac	0.25 A G.P.	4 channel
750-1515/040-000	24 V dc	0.5 A G.P.	8 channels

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Analog Output Modules

750-550	24 V dc		2 channels
750-551	24 V dc		4 channels
750-552	24 V dc		2 channels
750-553	24 V dc		4 channels
750-554	24 V dc		2 channels
750-555	24 V dc		4 channels
750-556	24 V dc		2 channels
750-557	24 V dc		4 channels
750-559	24 V dc		4 channels
750-560	24 V dc		2 channels
750-562	24 V dc		2 channels
750-563	24 V dc		2 channels
750-585	24 V dc		2 channels
750-586	24 V dc		2 channels
750-608	24 V dc	Output	2 channels
		-/+12Vdc	
750-557/040-000	24 V dc	-/+10V dc	4 channels
750-559/040-000	24 V dc	0-10 V dc	4 channels
750-563/040-000	24 V dc	6-18 V dc	2 channels

Counter Module

750-404	24 V dc	2 channels
750-638	24 V dc	2 channels
750-417	24 V dc	2 channels
750-633	24 V dc	Output 24 Vdc

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Supply Module

750-612	230 V ac/dc	10 A max
750-612/040-000	230 V ac/dc	10 A max
750-602	24 V dc	10 A max
750-602/040-000	24 V dc	10 A max
750-603	24 V dc	10 A max
750-604	24 V dc	10 A max
750-614	230 V ac/dc	10 A max
750-619	120 V ac	10 A max
750-601	24 V dc	6.3 A max
750-610	24 V dc	6.3 A max
750-609	230 V ac	6.3 A max
750-611	230 V ac	6.3 A max
750-615	120 V ac	6.3 A max
750-617	24 V ac	6.3 A max
750-620	18 V dc	0.2 A max
750-623	24 V dc	0.5 A max
750-625	24 V dc	500 mA max
750-606	24 V dc	1 A max
750-625/000-001	24 V dc	1 A max
750-1605	24 V dc	5 A max
750-1606	24 V dc	5 A max
750-1607	24 V dc	5 A max

Bus Supply Module

750-613	24 V dc	10 A max
750-613/040-000	24 V dc	10 A max

Pulse Width Module

750-511	24 V dc
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Interface Module

750-630	24 V dc
750-631	24 V dc
750-651	24 V dc
750-650	24 V dc
750-652	24 V dc
750-652/040-000	24 V dc
750-653	24 V dc
750-637	24 V dc
750-635	24 V dc
750-641	18 V dc
750-642	5 V dc
750-643	24 V dc
750-644	24 V dc
753-646	24 V dc
753-647	18 V dc
753-648	24 V dc
750-655	26.5-31.6 V dc
750-658	24 V dc

Binary Spacer Module

750-622	24 V dc
750-1629	24 V dc

Digital I/O Module

750-418	24 V dc	0.5 A G.P.	Input/Output 2 channels
750-419	24 V dc	0.5 A G.P.	Input/Output 2 channels
750-421	24 V dc	0.5 A G.P.	Input/Output 2 channels
750-665	24 V dc	0.5 A G.P.	Input/Output 4 channels
750-666	24 V dc	2 x 10 A G.P.	Input/Output 4/2 channels
750-667	24 V dc	2 A G.P.	Input/Output 4 channels

Intruder Detection
Module

750-424	24 V dc	2 channels
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End Module

750-600	-
750-616	-
750-621	-
750-629	-
750-600/040-000	-
750-616/040-000	

Filter Module

750-624	24 V dc	10 A max.
750-626	24 V dc	10 A max.
750-624/040-001	24 V dc	10 A max.
750-626/040-000	24 V dc	10 A max.

RTC Module

750-640	5 V dc internal
750-960, -961, -962, - 963, -965, -970	5 V dc bus

Stepper Controller RS-
422 Module 750-670

24 V dc

Analog Input / Digital
Output Module
750-645

24 V dc 0.5 A

Internal Data Bus
Extension

750-627	-	-
750-628	24 V dc	

PTC Module

750-1425	eight channels
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Digital Input Module 24 V dc

750-1400
750-1402
750-1405
750-1406
750-1407
750-1415
750-1416
750-1417
750-1418
750-1420
750-1421
750-1422
750-1423

Digital Output Module 24 V dc

750-1500
750-1501
750-1504
750-1505
750-1515
750-1516

0.5 A

Surrounding Air
Temperature 50°C

Surrounding Air
Temperature 60°C

Digital Input / Digital
Output Module 24 V dc

750-1502

750-1506

0.5 A

Surrounding Air
Temperature 50°C

Surrounding Air
Temperature 60°C

750-657 24 V dc

0.1 A

Surrounding Air
Temperature 60°C

750-632 24 V dc

1.4 A pilot
duty (1 chan.)
0.9 A pilot
duty (2 chan.)

Surrounding Air
Temperature 60°C

3-Phase Measuring Module

750-493
750-493/000-001
750-494
750-494/000-001
750-494/000-005

277 Vac
277 Vac
277 Vac
277 Vac
277 Vac

1 A
5 A
1 A
5 A

ACDC Shunt

Potential Multiplication Module

750-1605/040-000 24 V ac
750-1606/040-000 24 V ac

Surrounding air temperature 60°C unless specified otherwise.

Cat. Nos. with suffix .25-.... are specified for ambient -20°C - 60°C

Cat. Nos. with suffix /040-... are specified for max. surrounding temp. 70°C

All Cat. Nos. may have suffix-....

MARKING

Listee's name, type number and electrical ratings are provided for each catalog number.

The month and year of manufacture shall also be marked. Date coding, serial numbers, or equivalent means may be used.

Wiring terminals are marked to indicate proper connections for all circuits.

*The devices 750-562, 750-563, 750-632, 750-633, 750-645, 750-666, 750-1400, 750-1402, 750-1500, 750-1501, 750-1502, 750-1504, 750-1515, **750-333/040-000, 750-338/040-000, 750-838/040-000, 750-352/040-000, 750-880/040-000, 750-880/040-001, 750-613/040-000, 750-453/040-000, 750-455/040-000, 750-457/040-000, 750-464/040-000, 750-468/040-000, 750-508/040-000, 750-557/040-000, 750-559/040-000, 750-563/040-000, 750-1405/040-000, 750-1415/040-000, 750-1515/040-000 and 750-1405/040-1605** shall be marked "For Use with 75°C wire only"

All programmable controllers shall also be marked with the max. specified surrounding air temperature on the devices or in the installation instructions.

The programmable controllers, Cat. Nos. 758-870, 750-1500, 750-1501 and 750-1502 shall be marked with the max. specified surrounding air temperature of 50°C on the device or in the installation instructions.

The installation instructions shall contain the following sentence for devices with EtherCAT/Ethernet connectors "Only for use in LAN, not for connection to telecommunication circuits".

The devices 750-1400, 750-1402, 750-1500, 750-1501 and 750-1502 shall be marked in the installation instructions with "Connection shall be made with R/C (ECBT2) Type 612-230, manufactured by Wuerth Elektronik Eisos GmbH & Co KG, rated 150°C provided with R/C (AVLV2) Style 2464, rated 300 V, 80°C".

The installation instructions shall contain: "For cULus examination, the WAGO I/O System Series 750, 753 and 758 s have only been investigated for risk of fire and electrical shock (in accordance with UL508 and CSA C22.2 No. 142)."

The Cat. No. 750-439, 750-538 and 750-663 shall be marked "only operated with a safe 24 V dc power supply as the Cat. No. 750-606 or Cat. No. 750-625/000-001".

The programmable controllers Cat. No. 750-632 shall be marked with electrical ratings 0.9 A Pilot Duty (2 channels) on the device or in the installation manual.



**Marine & Offshore
Division**

Certificate number: 13453/D0 BV

File number: AP 3553

Product code: 4501H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

www.veristar.com

TYPE APPROVAL CERTIFICATE

This certificate is issued to

WAGO Kontakttechnik GmbH

Minden - GERMANY

for the type of product

PROGRAMMABLE LOGIC CONTROL UNITS

WAGO I/O SYSTEM 750, 753

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships and Offshore Units.

EC Code: 33, 31 for power supply unit.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 16 Feb 2022

For BUREAU VERITAS,

At BV HAMBURG, on 16 Feb 2017,

Dirk Hoepfner



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The **WAGO I/O Systems 750 and 753** are decentralized I/O systems, modular and field bus independent.

The **WAGO I/O System 753** is for the prewiring of components independent from the electronic.

According to type of application, field bus coupler can support following protocols: Ethernet, Profibus, CANopen or Modbus.

System may be composed of following modules:

Module Designation System 750	Module Designation System 753	Type Designation	Software Version
Fieldbus Coupler / Controller			
750-303/...-...	-	Fieldbus Coupler Profibus DP / FMS 12MBd	12
750-323/...-...	-	Fieldbus Coupler Profibus DP / 12MBd / Digital	11
750-333/...-...	-	Fieldbus Coupler Profibus DP / V1 / 12MBd	18
750-833/...-...	-	Contr. Profibus DP / V1 / 12MBd	16
750-342/...-...	-	Fieldbus Coupler Ethernet TCP / IP 10Mbit/s	18
750-842/...-...	-	Contr. Ethernet TCP / IP 10Mbit/s	19
750-337/...-...	-	Fieldbus Coupler CANopen 10kBd - 1MBd	21
750-837/...-...	-	Contr. CANopen 10kBd - 1MBd	17
750-312/...-...	-	Fieldbus Coupler ModBus / RS485 / 150 - 19200Bd	29
750-314/...-...	-	Fieldbus Coupler ModBus / RS232 / 150 - 19200Bd	29
750-315/...-...	-	Fieldbus Coupler ModBus / RS485 / 1,2 - 115,2kBd	29
750-316/...-...	-	Fieldbus Coupler ModBus / RS232 / 1,2 - 115,2kBd	29
750-812/...-...	-	Contr. ModBus / RS485 / 150 - 19200Bd	3H
750-814/...-...	-	Contr. ModBus / RS232 / 150 - 19200Bd	3G
750-815/...-...	-	Contr. ModBus / RS485 / 1,2 - 115,2kBd	3G
750-816/...-...	-	Contr. ModBus / RS232 / 1,2 - 115,2kBd	3G
750-306/...-...	-	Fieldbus Coupler DeviceNet	4L
750-806/...-...	-	Contr. DeviceNet	11
Digital Input (DI) Module			
750-400	753-400	2DI 24V DC 3.0ms	-
750-401	753-401	2DI 24V DC 0.2ms	-
750-424	753-424	2DI 24V DC wire-break detection	-
750-402	753-402	4DI 24V DC 3.0ms	-
750-403	753-403	4DI 24V DC 0.2ms	-
750-404	753-404	up/down counter 24 VDC, 100kHz	42
750-415	753-415	4DI 24V AC/DC 20ms	-
750-405	753-405	2 DI 230V AC	-
750-406	753-406	2 DI 120V AC	-
750-410	753-410	2DI 24V DC 3.0ms proximity switch	-
750-411	753-411	2DI 24V DC 0.2ms proximity switch	-
750-418	753-418	2DI 24V DC 3.0ms Diagnosis / Acknowledgement	-
750-419	-	2DI 24V DC 0.2ms Diagnosis	-
750-421	753-421	2DI 24V DC 3.0ms Diagnosis	-
750-430	753-430	8DI 24V DC 3.0ms	-
750-431	753-431	8DI 24V DC 0.2ms	-
750-432	753-432	4DI 24V DC 3.0ms 2-Wire	-
750-433	753-433	4DI 24V DC 2.0ms 2-Wire	-
750-435	-	1DI NAMUR Ex i	-
750-436	753-436	8DI 24V DC 3.0ms Negative	-
750-437	753-437	8DI 24V DC 0.2ms Negative	-
Digital Output (DO) Module			
750-501	753501	2DO 24V DC 0.5A	-
750-504	753-504	4DO 24V DC 0.5A	-
750-502	753-502	2DO 24V DC 2.0A	-
750-509	753-509	2DO 230V AC/DC 0.3A Solid State	-
750-512	753-512	2DO 250V AC 2.0A Rel. 2NO	-
750-513	753-513	2DO 250V AC 2.0A Rel. 2NO / Potential Free	-
750-517	753-517	2DO 250V AC 1.0A Rel. 2CO / Potential Free	-
750-516	753-516	4DO 24V DC 0.5A Negative	-

750-530	753-530	8DO 24V DC 0.5A	-
750-531	753-531	4DO 24V DC 0.5A 2-Wire	-
750-535	-	2DO 24V DC Ex i	-
750-536	753-536	8DO 24V DC 0.5A Negative	-
750-537	-	8DO 24V DC 0.5A High-Side Switching/Diagnosis	-

Analog Input (AI) Module (see clause 4.7 below)

750-452/...-...	753-452	2AI 0-20mA Differential	31
750-472/...-...	753-472	2AI 0-20mA 16 Bit Single Ended	09
750-454/...-...	753-454	2AI 4-20mA Differential	31
750-474/...-...	753-474	2AI 4-20mA 16 Bit Single Ended	09
750-468/...-...	-	4AI 0-10V DC Single Ended	3B
750-478/...-...	753-478	2AI 0-10V DC 16 Bit Single Ended	09
750-476/...-...	753-476	2AI $\pm$ 0-10V DC 16 Bit Single Ended	09
750-461/...-...	753-461	2AI RTD / Pt 100	3B
750-462/...-...	-	2AI Thermocouple / Type K	40
750-469/...-...	753-469	2AI Thermocouple / Type K / Diagnosis	40
750-453/...-...	753-453	4AI 0-20mA Single Ended	04
750-455/...-...	753-455	4AI 4-20mA Single Ended	04
750-456/...-...	753-456	2AI $\pm$ 10V DC	31
750-457/...-...	753-457	4AI $\pm$ 10V DC Single Ended	04
750-459/...-...	753-459	4AI 0-10V DC Single Ended	04
750-470/...-...	-	2AI 0-20mA Single Ended 50/60 Hz	04
750-473/...-...	-	2AI 4-20mA Single Ended 50/60 Hz	04
750-479/...-...	753-479	2AI $\pm$ 10V DC Differential Measurement	04
750-483/...-...	753-483	2AI 0-30V DC Differential Measurement	04
750-485/...-...	-	2AI 4-20mA Ex i Single Ended	31

Analog Output (AO) Module (see clause 4.7 below)

750-552/...-...	753-552	2AO 0-20mA	3C
750-554/...-...	753-554	2AO 4-20mA	3C
750-550/...-...	753-550	2AO 0-10V DC	3C
750-556/...-...	753-556	2AO $\pm$ 10V DC	3C
750-553/...-...	-	4AO 0-20mA	04
750-555/...-...	-	4AO 4-20mA	04
750-557/...-...	753-557	4AO $\pm$ 10V DC	04
750-559/...-...	753-559	4AO 0-10V DC	04
750-585/...-...	-	2AO 0-20mA Ex i	3A

Supply Module

750-602	-	24V DC Power Supply	-
750-601	-	24V DC Power Supply / Fuse	-
750-610	-	24V DC Power Supply / Fuse / Diagnosis	-
750-609	-	230V AC Power Supply / Fuse	-
750-611	-	230V AC Power Supply / Fuse / Diagnosis	-
750-612	-	0-230V AC/DC Power Supply	-
750-613	-	24V DC Bus Power Supply	-
750-624	-	24V DC Field Supply Filter (Surge)	-
750-626	-	24V DC Power Supply Filter (Surge)	-

Field Side Connection Module

750-614	753-614	Field Side Connection Module	-
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Separation and End Module

750-616	-	Separation Module	-
750-600	-	End Module	-

Speciality Module

750-650/...-...	753-650	RS 232 C Serial Interface	41
750-651/...-...	-	TTY Interface	3C
750-653/...-...	753-653	RS 485 Interface	41

750-404/...-...	753-404	Up/Down Counter	42
750-608/...-...	-	Trimmer Module 1kOhm / $\pm$ 12V DC	-
750-654/...-...	-	Data Exchange Module	3B
Accessory			
750-960	-	Profibus Fieldbus Connector / D-Sub male	-
750-970	753-110	Profibus Fieldbus Connector / D-Sub male and female	-

2. DOCUMENTS AND DRAWINGS :

According to WAGO general catalog W4 - Volume 3 and I/O system Circuit Schematics filed in AP 3553; PSA-A/ Rev.1.0 dated 02.06.2016; 40027818/ Rev. 2 dated 15.11.2016

3. TEST REPORTS :

WAGO Kontakttechnik GmbH:

EK 0016_1/00 to 5/00 dated 06/10/00; EK0054_03 dated 06/11/03; EK0021_04 dated 05/11/04; EK0007_05 dated 25/05/05; EK0005_05 dated 14/09/05; EK0027_1_05 to 5-05 dated 06/12/05; EMVP09_0280 dated 08.09.2009

EMV Services:

00/0206-1 to 00/0206-4 dated 29/12/2000, 00/0206-5 dated 21/01/2001.

TÜV Nord:

TÜV 07 ATEX 554086 X dated 15.05.2008 and 15.10.2009 (for 750-435, 750-535, 750-485, 750-585 and 750-625)

4. APPLICATION / LIMITATION :

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships and Offshore Units.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT** and **AUT-IMS**.

4.3 - Bureau Veritas Environmental Category, **EC Code: 33**, for Power supply unit 787-913; **EC Code: 31**

4.4 - Documents relating to each application are to be submitted to the Society's examination prior fitting on board.

4.5 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.6 - System is to be installed on ground plane and wired with shielded cables (for communication and I/O 's), Refer to Manufacturer's instructions.

4.7 - Use of filter modules (750-624 or 750-626) is absolutely necessary for power supplies (Refer to Manufacturer's instructions).

4.8 - Only Hardware and Software successfully tested together in compliance with the regulations as referred to in page one, according to the declaration of the manufacturer are covered by this certificate.

4.9 - Line monitoring cannot be achieved with Analog I/O modules type 0-20mA or 0-10V DC.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The above mentioned products are to be supplied by **WAGO Kontakttechnik GmbH & Co. KG** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320 and as such does not require a BV product certificate.

5.3 - **WAGO Kontakttechnik GmbH & Co. KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

WAGO Kontakttechnik GmbH & Co. KG
Hansastraße 27
32423 Minden
GERMANY

5.4 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT :

- Maker's name or trademark.
- Serial number of the units.
- Equipment type or model identification under which it was type-tested.

7. OTHERS :

7.1 - It is **WAGO Kontakttechnik GmbH, Minden - GERMANY** responsibility to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate No 13453/C0 BV issued on 18 Jul 2011 by the Society.

*** END OF CERTIFICATE ***