

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	ComAp a.s.
Address	U Uranie 1612/14a, Praha 7 - Holešovice, 170 00, Czech Republic
Place of Production	TOROLA electronic, spol. s r.o. Nadrazni 906, Frenstat pod Radhostem, 744 01, Czech Republic
Place of Production	NVision Czech Republic a.s. Klasterni 1, Votice, 259 01, Czech Republic
Place of Production	Mikroelektronika spol. s r.o. Dráby 849, Vysoké Mýto - Litomyšlské Předměstí, 566 01, Czech Republic
Place of Production	Vesla s.r.o. Buštěhradská 223 Dubí, Kladno, 272 03, Czech Republic
Type	Control Units
Description	Generator Controller and Power Management System InteliGen: Gen-set controller consisting of: IG-NT(C)-(GC)-(LT): Control panel IG-NT(C)-BB: Base box

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InteliSys:
Gen-set controller consisting of:
IS-NTC-BB: Base box
IS-NT-BB: Marine: Base box
IS NT Marine: complete unit IS-NT-BB + IS Display

InteliMains: Mains/bus breaker controller consisting of:
IM-NT(C)-(GC)LT: Control panel
IM-NT(C)-BB: Base box

For further components and detailed product description, pls. refer to appendix.

Trade Name	InteliGen, InteliSys, InteliMains
Application	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2, ENV3 and ENV4 (power distribution zone) as defined in LR Type Approval System, Test Specification 1 – 2002.
Specified Standard	Manufacturer's specification
Other Conditions	<p>The complete installation is subject to a separate plan appraisal according to applicable Rules and Regulations when installed on LR classed vessels.</p> <p>Separate synchroniser and short circuit protection devices are required. Separate safety system for the prime mover is required. Virtual periphery function not to be used for systems requiring redundancy of power generation/propulsion.</p> <p>Various parameters may be adjusted by the utilized software tools. The parameters adjusted to be verified against applicable LR Rules and Regulations. The valid software used is to be suitably documented in the relevant and applicable documentation.</p>

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Lowest ambient temperature for fixed installation of -40 °C has not been verified by documentary evidence.

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 No. HTS/ETS 39734-20/MK/JK and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

DESCRIPTION

Generator Controller and Power Management System

InteliGen Gen-set controller consisting of (options in bracket):

IG-NT(C)-(GC)-(LT): Control panel

IG-NT(C)-BB: Base box

InteliSys Gen-set controller consisting of:

IS-NTC-BB: Base box

IS-NT-BB: Marine: Base box

IS NT Marine: Complete unit IS-NT-BB + IS Display

InteliMains: Mains/bus breaker controller consisting of (options in bracket)

IM-NT(C)-(GC)LT: Control panel

IM-NT(C)-BB: Base box

Abbreviations:

BB: base box

C: add. interface USB + RS 232(RS485) and Ethernet in case of base box;
selectable U/I input ranges

GC: add. graphical character support

LT: low temperature version -40 °C

Accessories:

Displays:

IS-Display Marine,

IS Display LT Marine: monochromatic display

IG-Display Marine (LT) (GC): monochromatic display

InteliVision 8 Marine: remote colour display

InteliVision 5 CAN Backlit: remote colour display

InteliVision 12TOEM: remote colour display

InteliVision 12TOEM-23265281: remote colour display

InteliVision 13Touch: remote colour display

Extension Modules:

I-AOUT8: 8 analogue outputs

I-RB8: 8 analogue outputs

I-RB8 (231): 8 relay outputs

I-RB16: 16 relay outputs

Inteli IO8/8: binary/analog IO module

Inteli AIN8: 8 analogue inputs

Inteli AIN8TC: 8 analogue inputs for thermocouples

DESCRIPTION (continued)

IS-AIN8:	8 analogue inputs
IS-AIN8TC:	8 analogue inputs for thermocouples
IS-BIN16/8:	binary IO module
IGS-PTM:	analog/binary IO module
IGL-RA15:	remote annunciator

Common modules:

IG-AVRi Marine:	AVR interface
IG-AVRi TRANS Marine:	supply transformer for IG-AVRi
IGS-NT LSM+PMS:	dongle for load sharing and power management
IG-MTU, IG-MTU Marine,	
IG-MTU-2-1:	main transformer units
I-LBA:	low battery adapter

Communication modules:

I-LB+:	CAN/USB, RS 232, RS 485 bridge for multiple controller connections
I-CR:	CAN repeater module
I-CR-R:	communication redundancy module
IB-NT:	internet bridge NT
I-CB:	communication module with ECU units

ANSI functions:

59	overvoltage
27	undervoltage
47	phase sequence voltage
81H	overfrequency
81L	underfrequency
51	overcurrent (range 100- 200%)
46	current unbalance
32	overload
51N+64	earth fault
32R	reverse power