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Project 4789114371

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Report

on

PROGRAMMABLE CONTROLLERS

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DESCRIPTION

PRODUCT COVERED:

USL, CNL - Open Type Programmable Controllers - Series OCTOPUS OS3 -

Cat. Nos. OCTOPUS OS3, followed by dash, followed by 3 or 4, followed by 0 or 4, followed by dash, followed by 00, 08, 16 or 24, followed by 00, 08 or 16, followed by 00, 08, 16 or 24, followed by 00. 08 or 16, followed by 08, 16 or 24, followed by 00, followed by 00, followed by T6 or R6, followed by T6 or R6, followed by dash, followed by V or T, followed by BB, HH, PP, QQ, M9 or N9, followed by Z9, Y9 or S9, followed by 99, UR or MR, followed by HH, followed by S, followed by E, B, I or P, followed by additional suffixes.

GENERAL:

These devices are modular enclosed type managed Ethernet switches for industrial control Ethernet devices. Device communication is accomplished via M12 connector interfaces through wire.

These devices are intended for installation in industrial factory automation environments in accordance with NFPA 79.

RATINGS and ENVIRONMENTAL CONDITIONS:

Environmental ratings:

Enclosure:	Enclosed Type
Equipment function:	Programmable Logic Controllers, Managed Ethernet Switch
Connection to mains supply:	All models: No
Overvoltage Category:	II
Pollution Degree:	2
Means of protection:	Class I
Ambient Temperature:	-40..60°C @ max. 2000m -40..55°C @ max. 4000m -40..70°C @ max. 2000m T-models, extended cond. -40..65°C @ max. 4000m T-models, extended cond.
Humidity:	Max. 100% condensating
Operating altitude:	Max. 2000m @60°C - standard conditions Max. 4000m @55°C - standard conditions Max. 2000m @70°C - extended conditions Max. 4000m @65°C - extended conditions
Use:	Dry, Indoor Use Only
Equipment Mobility:	Fixed
Operating Conditions:	Continuous
Overall size of equipment, L x W x H (mm):	24 port: 478.0 x 197.5 x 137.5 16 port: 400.8 x 197.5 x 137.5 8 port: 323.6 x 197.5 x 137.5
Mass of equipment, kg:	24 port: max. 5.6 16 port: max. 6.8 8 port: max. 8.0
Marked degree of protection:	Type 1 IP65/67 (Not Tested by UL)

Electrical ratings:

Cat. No.	Supply Voltage	
OS3..BB..	24 (16.8-32.0) V DC	LPS/Class 2
OS3..HH..	36-48 (25.2-60.0) V DC	
OS3..PP..	PoE: 47-57 V DC PoE+: 53-57 V DC	LPS/Class 2 LPS/Class 2
OS3..QQ..	24/36/48 (16.8-60) V DC	
OS3..M9..	100..240 (88-265) V AC 50-60 Hz	
OS3..N9..	72-110 (50.4-138.0) V DC	

Device	Supply version	Max. input power, W	Max. output power, W [Btu (IT)/h]	
8 ports	All	21	20.5	[70 Btu (IT)/h]
	M9, N9, QQ	94	29.0	[99 Btu (IT)/h]
	PP	159	94.1	[321 Btu (IT)/h]
16 ports	All	27	27	[92 Btu (IT)/h]
	M9, N9, QQ	101	35.8	[122 Btu (IT)/h]
	PP	165	100.2	[342 Btu (IT)/h]
24 ports	All	34	34	[116 Btu (IT)/h]
	M9, N9, QQ	108	42.8	[146 Btu (IT)/h]
	PP	172	107	[365 Btu (IT)/h]

Signal contact: 110Vdc / 0.3A Resistive load
30Vdc / 2.0A Resistive load

NOMENCLATURE BREAKDOWN:

OS3	-	4	4	-	24	16	24	16	24	00
I	II	III	IV	V	VI	VII	VIII	IX	X	XI

I Product designation:
OS3 - OCTOPUS OS3

II Dash

III Bit rate:
3 - 10/100 and 10/100/1000 Mbit/s ports
4 - 10/100/1000-Mbit/s-Ports

IV Hardware type:
0 - Standard
4 - Suitable for PoE/POE+

V Dash

VI Number of PoE/PoE+ ports:
00 - 0 x PoE/PoE+ Ports
08 - 8 x PoE/PoE+ Ports
16 - 16 x PoE/PoE+ Ports
24 - 24 x PoE/PoE+ Ports

VII Number of 10/100-Mbit/s-PoE/PoE+ ports:
00 - 0 x 10/100-Mbit/s-PoE/PoE+ Ports
08 - 8 x 10/100-Mbit/s-PoE/PoE+ Ports
16 - 16 x 10/100-Mbit/s-PoE/PoE+ Ports

VIII Number of 10/100/1000-Mbit/s-PoE/PoE+ ports:
00 - 0 x 10/100/1000-Mbit/s-PoE/PoE+ Ports
08 - 8 x 10/100/1000-Mbit/s-PoE/PoE+ Ports
16 - 16 x 10/100/1000-Mbit/s-PoE/PoE+ Ports
24 - 24 x 10/100/1000-Mbit/s-PoE/PoE+ Ports

IX Number of 10/100-Mbit/s ports:
00 - 0 x 10/100-Mbit/s Ports
08 - 8 x 10/100-Mbit/s Ports
16 - 16 x 10/100-Mbit/s Ports

X Number of 10/100/1000-Mbit/s ports:
08 - 8 x 10/100/1000-Mbit/s Ports
16 - 16 x 10/100/1000-Mbit/s Ports
24 - 24 x 10/100/1000-Mbit/s Ports

XI Number of >1000-Mbit/s ports:
00 - 0 x 10000-Mbit/s Ports

NOMENCLATURE BREAKDOWN (COND'T):

R6	R6	-	T	QQ	Additional suffixes
XII	XIII	XIV	XV	XVI	XVII

XII First pair uplink-ports

T6 - 2 x 1GE M12 „x“-coded

R6 - 2 x 1GE M12 „x“-coded, relay

XIII Second pair uplink-ports

T6 - 2 x 1GE M12 „x“-coded

R6 - 2 x 1GE M12 „x“-coded, relay

XIV Dash

XV Temperature range:

V - Standard -40..60°C

T - Extended -40..70°C (PWB's with conformal coating)

XVI Supply voltages / voltage ranges:

BB - 2 redundant, 24Vdc (16.8..32Vdc)

HH - 2 redundant, 36..48Vdc (25.2..60Vdc)

PP - 2 redundant, POE 47..57Vdc or POE+ 53..57Vdc

QQ - 2 redundant, 24/36/48Vdc (16.8..60Vdc)

M9 - 100..240 (88..265) V AC, 50..60 Hz

N9 - 72..110 (50.4..138) V DC

XVII For information only - Up to 17 numbers and/or letters:

Represents:

xx - Other approvals/declarations (2 digits)

xx - Software package (2 digits)

xx - Customization (2 digits)

x - Hardware configuration (1 digit)

xx - Software configuration (2 digits)

xx - Software level (2 digits)

xxxxx - Software version (5 digits)

xx - Maintenance (2 digits)

ENGINEERING CONSIDERATIONS (NOT FOR UL REPRESENTATIVE USE):

Use - For use only in products where the acceptability of the combination is determined by UL LLC.

USL indicates investigation to UL 61010-1 SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - PART 1: GENERAL REQUIREMENTS - Edition 3 - Issue Date 2012/05/11 and UL 61010-2-201, Part 2-201, PARTICULAR REQUIREMENTS FOR CONTROL EQUIPMENT - Edition 2, dated May 14, 2018.

CNL indicates investigation to CAN/CSA-C22.2 No. 61010-1:12 SAFETY REQUIREMENTS FOR ELECTRICAL EQUIPMENT FOR MEASUREMENT, CONTROL, AND LABORATORY USE - PART 1: GENERAL REQUIREMENTS - Edition 3 - Issue Date 2012/05/11 and CAN/CSA-C22.2 No. 61010-2-201:18 PARTICULAR REQUIREMENTS FOR CONTROL EQUIPMENT - Edition 2, February 2018.

NOTE:

USL = US Standards - Listed

CNL = Canadian Standards - Listed

Special Considerations - The following items are considerations that were made in the evaluation of this product.

1. Devices including BB and PP power supplies have been investigated under the provisions for LPS/Class 2 supply circuits consideration. See marking requirements.
2. The power supplies HH, QQ, M9 and N9 provide non-hazardous energy (Lim. Energy) SELV outputs. All internal circuits fed by these power supplies have been investigated under SELV/Limited Energy consideration.
3. These products have not been investigated to the following standards or clauses: IEC 60529.

CONSTRUCTION DETAILS:

The general design, shape and arrangement shall be as shown in the following description and in the accompanying photographs, except where variations are specifically described.

Capacitors - All capacitors are non-oil filled (other than Askarel), except where specifically described as Recognized Component capacitors.

Tolerances - Unless specified otherwise, all indicated dimensions are nominal.

Corrosion Protection - All parts not made from aluminum are of corrosion resistant material or are plated or painted as corrosion protection. All main housing parts are made from aluminum and do not require any further corrosion protection.

Printed Wiring Board (ZPMV2/8) - rated min. 94V-1, min. 130°C unless specified otherwise, suitable for direct support of live parts. Refer to Recognized Component Directory for solder temperature and dwell time limits.

Internal Wiring - Unless otherwise specified, all internal wiring is Recognized Component - Appliance Wiring Material (AVLV2/8), rated min. 300V, 105°C.

Unless specified otherwise, insulating tubing - Tubing used for additional insulating purposes is R/C Extruded Insulating Tubing (YDPU2 and YDPU8/CSA certified), rated minimum VW-1, 105°C, 300 V, and having color(s) as specified within the Recognitions.

Unless specified otherwise, sleeving used for additional insulating purposes is R/C (UZFT2 and UZFT8/CSA certified), rated minimum 105°C, 300V.

Grounding terminals - The grounding terminal intended for connection of a field-installed equipment grounding conductor shall be plainly identified with the grounding symbol (IEC 60417, symbol 5019). At least one equipment grounding terminal is factory provided by an M4 screw and with a Listed (ZMVV/7) closed-loop crimp-on pressure wire connector, suitable for AWG 16.

Mechanical Assembly - Housing parts and component mounting assemblies are reliably secured by plated steel screws.

Conformal coatings - For extended temperature conditions of 70°C, printed wiring boards are coated within its Recognition with R/C (QMJU2/8) coatings, minimum thickness as specified within its Recognized ratings.

Product combinations - For covered OS3 product code combinations, see Illustration 28.