AQUA COOLING SOLUTIONS LIMITED

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Customer : Nautilus Data Technologie

Plant Designation : HMI

Drawing number : P15033/HMI

Project Number

End User : Nautilus Data Technologie Control panel by : Shellau

Incoming supply : 120VAC 60Hz

Site Location :1260 Nimitz Avenue

Vallejo

CA 94592

Feeder

: 24VDC Control voltage

Manufacturing date : November 2015

Degree of protect. : IP54

Panel Location

Created on : 03. Nov. 2015

Responsible for project : M. CARMODY

Date changed 04. Nov. 2015 Highest Page No. 61

Editor MDC No. of pages 12

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			Editor	M. CARMODY								
			Tested	04. Nov. 2015	HMI				REV. B	ISSUED FOR MANUFF	HLIUKE	P. 1
Changes	Date	Name	Norm		Original	Sub. f.	Sub. b.			04/11/2015		61 P.

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0 GENERAL SPECIFICATIONS AND TECHNICAL INFORMATION CONTROL PANEL DETAILS SPECIFICATION NOTE COMMENTS: -PAINT FINISH SPECIFICATION TOTAL SIZE OF ENCLOSURE/CONTROL PANEL/S 380(H) x600(W) x210(D) mm RITTAL: TS RANGE (1200/800mm Width) SECTIONS GLOSS: SEMI GLOSS: MATT: POWDER-COATED etc RITTAL STANDARD PAINT FINISH APPROXIMATE OVERALL WEIGHT 25kg. EXTERIOR COLOUR (EXCLUDING DOORS) RITTAL POWDER-COATED TEXTURED (RAL 7035) 1 PHASE/NEUTRAL/EARTH 230VAC/50Hz SYSTEM SUPPLY EXTERIOR COLOUR (DOORS) RITTAL POWDER-COATED TEXTURED (RAL 7035) INTERIOR COLOUR (EXCLUDING BACKPLATE) SYSTEM SUPPLY TYPE TN-S RITTAL POWDER-COATED TEXTURED (RAL 7035) SYSTEM SUPPLY REQUIREMENTS 6AMP SUPPLY INTERIOR COLOUR (INSIDE OF DOORS) RITTAL POWDER-COATED TEXTURED (RAL 7035) SYSTEM SUPPLY ALLOWANCES FOR DIVERSITY DIVERSITY 100%FLC CONNECTED MOUNTING PLATE/S RITTAL STANDARD (ZINC PLATED) SYSTEM SUPPLY DESIGN CURRENT REQUIREMENTS BASE/PLINTH (FITTED) RITTAL STANDARD (RAL 7022) MAIN SUPPLY ISOLATOR TYPE 400AMP FUSE DISCONNECTOR CABLE CHAMBER (NOT FITTED) RITTAL POWDER-COATED TEXTURED (RAL 7035) SHORT CIRCUIT CAPACITY APPARENT POWER (KVA CONNECTED) $P = V \times I \times 1.732$ ACTIVE POWER (KW CONNECTED) $P = V \times I \times 1.732 \times 0.8$ DC CONTROL POWER (WATTS CONNECTED) POWER SUPPLY UNIT 400VAC/24VDC/60AMP/1440W. 230VAC ENCLOSURE LIGHTS & SOCKETS, VOLTAGE CONTROL & INDICATION VOLTAGE 24700 SPECIFICATION COMMENTS: -PIC FOUTPMENT SPECIFICATION PROTECTION EN292/BSEN954-1/BSEN60204-1/BS7671 NOTE: -ALL APPLICABLE & RELEVANT STANDARDS etc. ALLEN BRADLEY BS/EN/IEC STANDARDS IMPLEMENTED PLC MAKE POINT IO DEGREE OF ENCLOSURE PROTECTION (IP RATING) PLC TYPE DETAILS OF EQUIPMENT BY BARRIER SCREENING 25VAC/60VDC AND ABOVE (IP20B) NOTE: -DRY ENVIRONMENTS MAINTAINED (EN60204) PLC INTERFACE ETHERNET EQUIPOTENTIAL BONDING IMPLEMENTED YES BS7671 STANDARDS AUTOMATIC DISCONNECTION INSTALLED YES MANUFACTURERS SPECIFICATIONS IMPLEMENTED YES EMC STANDARDS REQUIRED (SCREENING) YES MANUFACTURERS EMC REQUIREMENTS IMPLEMENTED STANDARD LABELS TO BE FITTED YES HAZARDS/WARNING SIGNS AND VOLTAGE LABELS CONDUCTORS AND TERMINATIONS SPECIFICATION COMMENTS: -CABLE COLOURS **SPECIFICATION** MINIMUM SIZE OF POWER WIRING AC 400VAC POWER WIRING BLACK 2.5mm² MINIMUM SIZE OF CONTROLS & I/O WIRING 24VDC 1.0mm² (I/O 0.5mm²) AC 230VAC POWER WIRING BLACK MINIMUM SIZE OF POWER TERMINALS 4. Omm TERMINATION PROTECTIVE CONDUCTOR GREEN/YELLOW MINIMUM SIZE OF CONTROL TERMINALS 2.5mm TERMINATION AC CONTROL CIRCUITS + RED AC CONTROL CIRCUITS -WHITE/RED MAIN POWER BUSBAR SIZE 15x5mm COPPER BAR MAIN EARTH BUSBAR SIZE 30x15mm COPPER BAR DC CONTROL CIRCUITS + DARK BLUE EARTH BUSBAR POSITIONS BOTTOM OF PANEL/S DC CONTROL CIRCUITS -WHITE/BLUE BUSBAR AND/OR PE TERMINALS NEUTRAL CIRCUITS LIGHT BLUE METHOD OF TERMINATING OUTGOING PROTECTIVE CONDUCTORS ORANGE EXTERNAL CABLES, ENTRY POSITION BOTTOM/TOP ENTRY LIVE SIDE OF ISOLATOR CIRCUITS METHOD OF FIXING/SUPPORTING OUTGOING CABLES CABLE TRUNKING/TRAY EXTERNALLY FED INTERLOCKS CIRCUITS (AC) ORANGE SCHEMATIC SYMBOLS & CONTACT REFERENCE NUMBERS Etc SYMBOLS BS EN 60617 EQUIPMENT PAGE-PATH NUMBERING. EXTERNALLY FED INTERLOCKS CIRCUITS (DC) ORANGE GENERAL COMMENTS: -2 31 Date 03. Nov. 2015 AQUA COOLING HMI P15033/HMI M. CARMODY

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General Standards

Technical Information

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EN SAFETY RELATED CATEGORIES

EN954-1 SAF	ETY RELATED CIRCUIT CATEGORIES.	MACHINERY AND EQUIPMENTS.	BSEN 60204-1 SAFETY RELATED STOPPING CATEGORIES.				
CATEGORY "B"	PLC INPUT CONTROLLED. PLC OUTPUT CONTROLLED. PLC OUTPUTS FOR RUN ENABLE RELAY. PLC OUTPUTS FOR INVERTER POWER CONTACTORS.	MOTOR CONTACTORS INVERTER DRIVE UNITS CONTROL PANEL EMERGENCY STOP DRIVE BOX EMERGENCY STOP OP STATION EMERGENCY STOP	CATEGORY "2" IMMEDIATE STOP (PLC CONTROLLED) CONTACTORS.				
CATEGORY "1-2"	DUAL CHANNEL INPUT TO SAFETY RELAY. SINGLE CHANNEL OUTPUT FROM SAFETY RELAY TO HARDWIRED CONTACTOR.	MOTOR CONTACTORS INVERTER DRIVE UNITS CONTROL PANEL EMERGENCY STOP	CATEGORY "O" IMMEDIATE STOP (SAFETY CONTACTS) DUAL CHANNEL HARDWIRED CONTROLLED TO CONTACTOR WITH DIVERSITY CIRCUITS.				

GENERAL DUTY TENANCE NOTE:

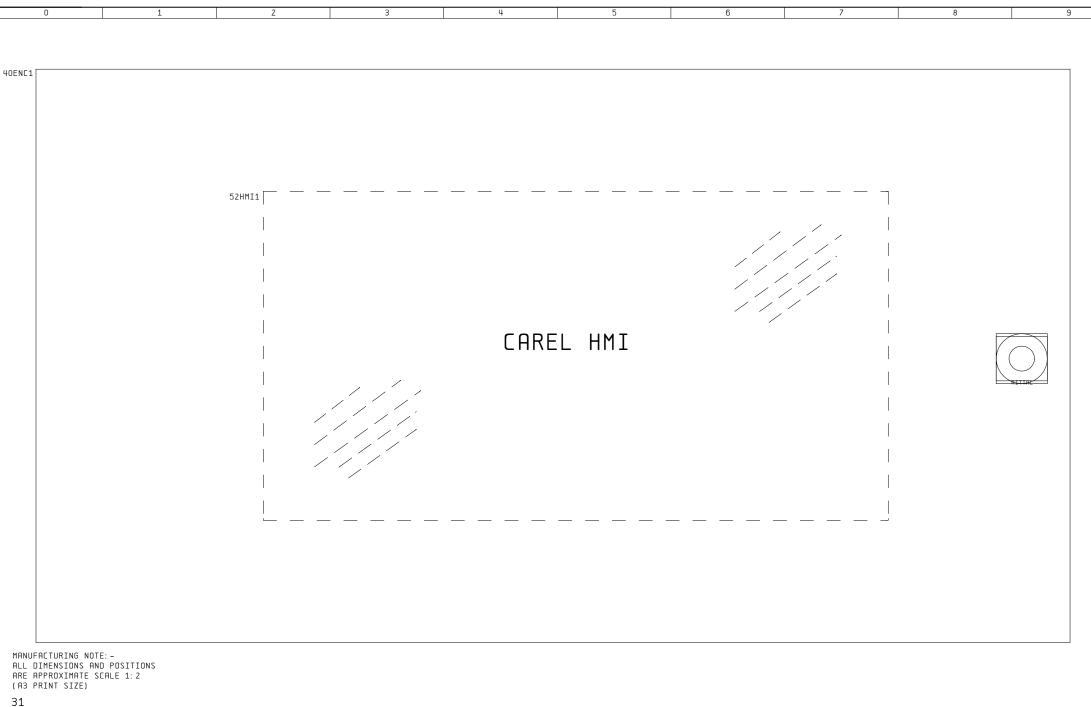
ISOLATE All MACHINERY AND/OR EQUIPMENT AT ISOLATION POINTS BEFORE UNDERTAKING ANY DUTY TENANCE WORK.

30 03. Nov. 2015 HMI P15033/HMI AQUA COOLING M. CARMODY SOLUTIONS EN Standards ISSUED FOR MANUFACTURE REV. B Tested 04. Nov. 2015 Safety Related Categories. 04/11/2015 Original Sub. f. Sub. b. Changes Date Name Norm

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General Arrangement

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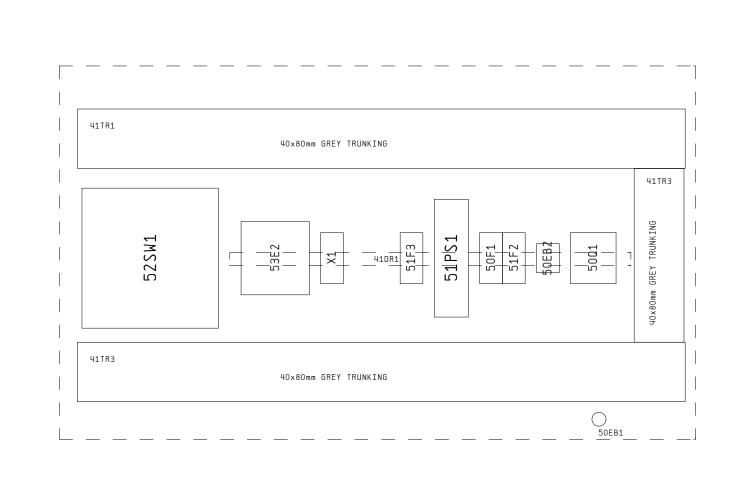
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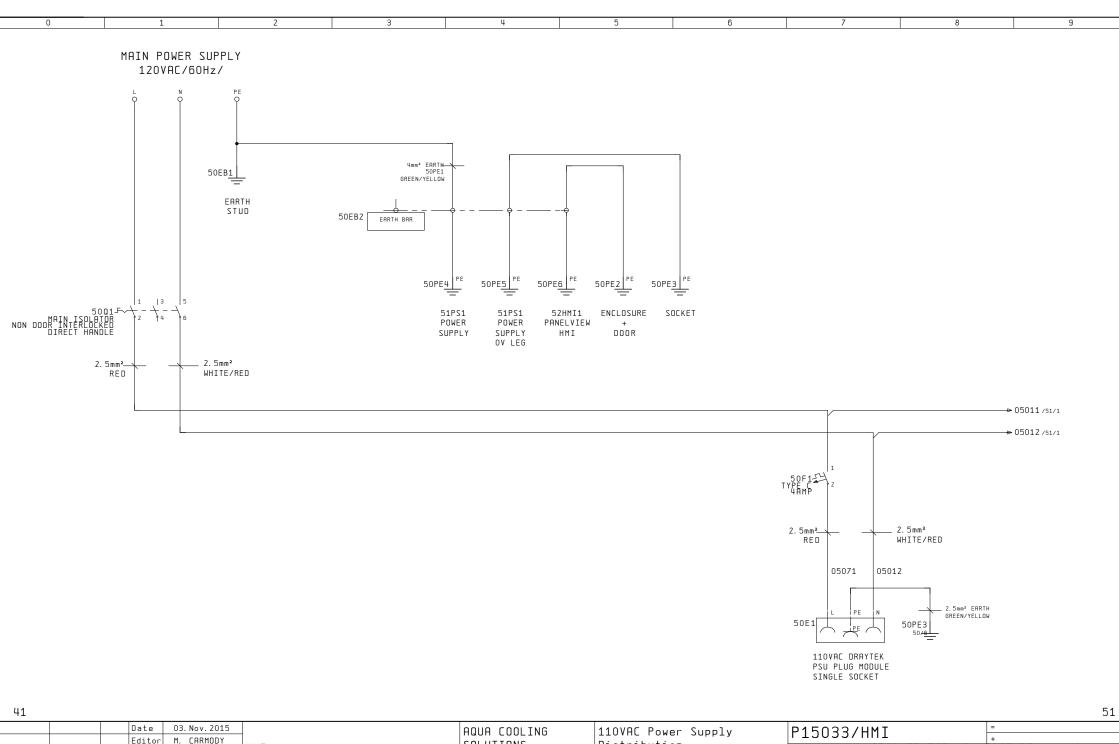
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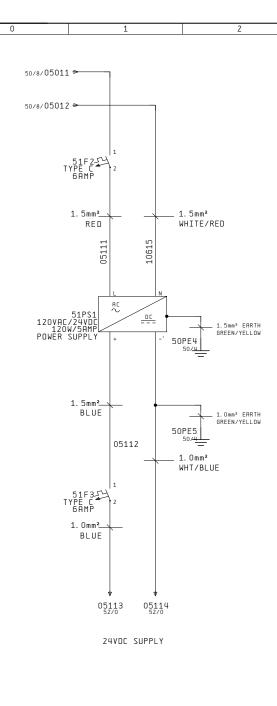


50 40 Date 03. Nov. 2015 P15033/HMI AQUA COOLING Control Panel Editor M. CARMODY SOLUTIONS Backplate Layout ISSUED FOR MANUFACTURE HMI REV. B Р. 41 Tested 04. Nov. 2015 04/11/2015 Original Sub. f. Sub. b. Changes Date Name Norm

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24VDC Power Supply P15033/HMI AQUA COOLING SOLUTIONS Distribution HMI P. 51

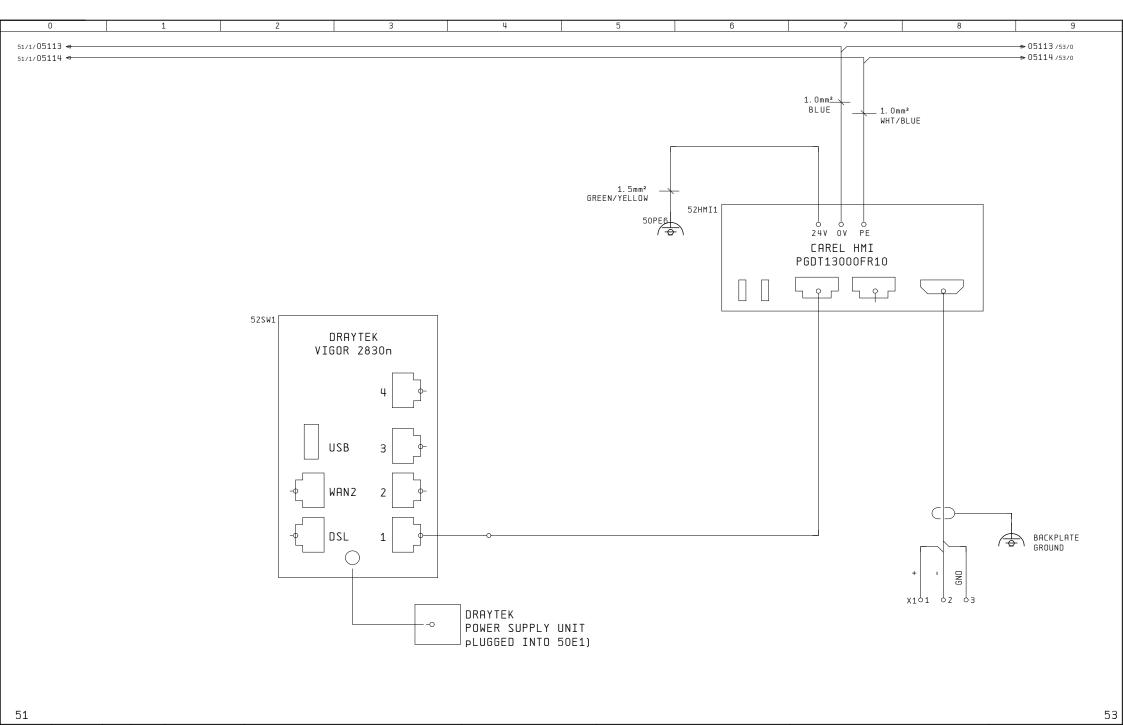
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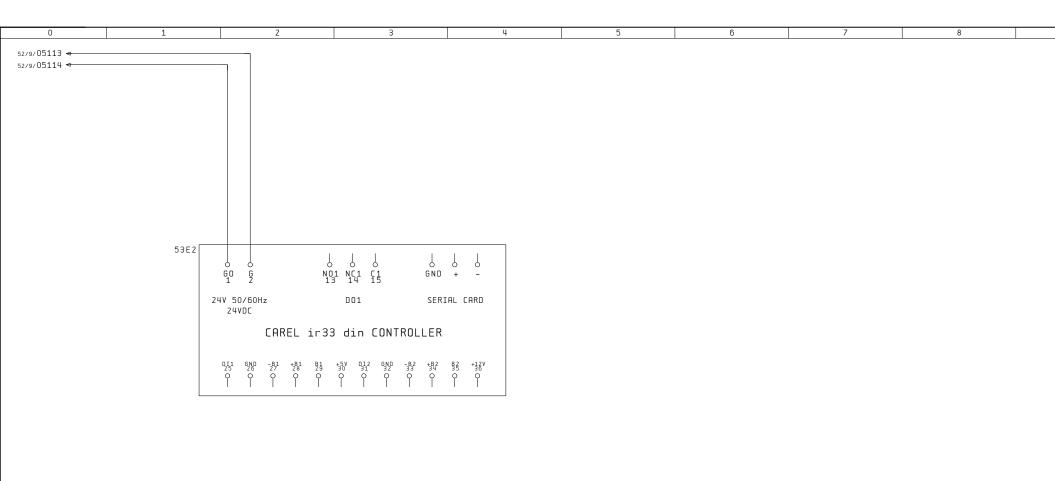
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DEVICE DESIGNATION DESCRIPTION						YPE/PART Nº	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE. PATH	LINE ITEM CODE Nº	
40ENC1	600x380x210mm	m AE ENCLOSURE	E		AE 1	1039. 500	Rittal Ltd	1	40. 0	1	
41TR1	40X80mm NARRO	OW TRUNKING				E154	Lovato Electric	1	41. 2	2	
41TR3	40X80mm NARRO	OW TRUNKING			l	E154	Lovato Electric	1	41. 2	3	
41DR1	35mm X 7.5mm NORMAL DUTY	TOP HAT SLOTTE	ED RAIL		Т	TS35S	Lovato Electric	1	41. 5	4	
41TR3	40X80mm NARRO	OW TRUNKING			·	E154	Lovato Electric	1	41. 7	5	
5001	3 POLE 25A S.	IRCO M LOADBREF	AK SWITCH		220	00 3002	SOCOMEC	1	50. 1	6	
5001	DIRECT HANDLE	E - BLUE			229	99 5012	SOCOMEC	1	50. 1	7	
5001	TERMINAL SHRO	OUD	16-40A		229	94 3005	SOCOMEC	1	50. 1	8	
50EB1	M8x40mm BRASS	S HEX BOLT			M	18X40	Merlin	1	50. 2	9	
50EB1	M8 CUT WASHER	R				M8S	Merlin	1	50. 2	10	
50EB1	M8 BRASS WASH	HER				M8W	Merlin	2	50. 2	11	
50EB1	M8 BRASS NUT					M8N	Merlin	2	50. 2	12	
50EB2	4mm PE Termir	nal			57. 50	04. 9055. 0	WIELAND ELECTRIC	3	50. 3	13	
50F1	4A 1 POLE AC	C CURVE MCB			AB148	B9-M1C040	ALLEN BRADLEY	1	50. 7	14	
50E1	SWITCHED SING	GLE SOCKET			8:	11 27	LEGRAND	1	50. 7	15	
51F2	6A 1 POLE AC	C CURVE MCB			AB148	B9-M1C060	ALLEN BRADLEY	1	51. 1	16	
51PS1	85264VAC 2	24VDC POWER SUF	PPLY 5A		AB160	D6XLE120E	ALLEN BRADLEY	1	51. 1	17	
51F3	6A 1 POLE DC	C CURVE MCB			AB149	92-D1C060	ALLEN BRADLEY	1	51. 1	18	
52SW1	ROUTER			VIGC	OR 2830N	Draytek	1	52. 2	19		
RJ2	PATCHCORD	AB158:	5JM4TBJM2	ALLEN BRADLEY	1	52. 4	20				
53										61	
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DEVICE DESIGNATION	DESCRIPTION				MODEL TYPE/PART Nº	MANUFACTURER	UNIT QUANTITY	SCHEMATIC PAGE. PATH	LINE ITEM	
52HMI1	HMI TERMINAL				PGDT13000FR10	Carel	1	52. 6	21	
X1	4mm Terminal				57. 504. 0055. 0	WIELAND ELECTRIC	3	52. 8	22	
X1	2.5/4mm END PL				07. 311. 0155. 0	WIELAND ELECTRIC	1	52. 8	23	
X1	TERMINAL END S				Z5. 522. 8555. 0	WIELAND ELECTRIC	2	52. 8	24	
53E2	DIGITAL CONTRO				DN33V9MR20	Carel	1	53. 1	25	
53E2	IR33 DIN SERIF RS485, DIISPLAY & P				IROPZSER30	Carel	1	53. 1	26	
60	60 Date 04. Nov. 2015			00110 5001 7110		D45600 ###		=		
	ditor TMC	TMC		AQUA COOLING SOLUTIONS	Bill of Materials	P15033/HMI = = = = = = = = = = = = = = = = = = =				
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