




Technical Specification

 <p>MATRIX CONTROLS</p>	<h1 style="text-align: center;">Matrix</h1> <h2 style="text-align: center;">MGP0882L+ DDC</h2>	
<p>Application</p>	<div style="text-align: center;">  </div> <p>Programmable Logic Control 45 pseudo variables and 60 constant values for analog or logic calculation.</p> <p>Analog calculation functions: MAX, MIN, SUM, AVG, LINEAR, BTU, PID, ADD, SUB, MUL, DIV, SQUARE ROOT, HALF, SETPOINTSEL, THERMOSTATIC Control Loop and PID Control Loop.</p> <p>Digital logic calculation functions: AND, OR, XOR, NOR, NAND, NXOR, NOT, LT, LE, GT, GE, NE, EQ, IF, ELSEIF, ELSE.</p> <p>Timer/Counter: 4 number configurable down timer/counter. 1 number configurable bypass timer. 8 number run hour timers.</p> <p>Schedule Management: Occupied, Unoccupied, Standby and Bypass modes. 16 numbers of 7 days schedule and 10 numbers of Holiday schedule. AND & OR functions for schedule management.</p> <p>Linearization Table for 10KΩ thermistor, PT1000 temperature sensors.</p> <p>Steinhart-hart equation: Support high accuracy of calibrated 10K thermistor.</p> <p>Out Supervision: On-Failure, Off-Failure, Trip Alarm. Analogue input alarm: High Level and Low Level alarm. Digital input alarm: High State, Low State and Change State.</p>	
<ul style="list-style-type: none"> • Programmable DDC • Chilled Water fan Coil controller • Lighting Controller 		
<p>Features</p>	<ul style="list-style-type: none"> • 8 number of universal inputs configurable to following type of inputs <ol style="list-style-type: none"> a. Voltage free digital input b. Pulse counting c. 10KΩ thermistor resistive d. PT1000 resistive e. 0 to 10 Volt analogue f. 0 to 20mA or 4 to 20mA current loop • Additional sub net communication ports for interfacing with high-end LCD thermostat, digital power meters, network sensors and HVAC equipment such as chillers ,DX compressor & FCUs etc. • 32-bit ARM CORTEX M3 processor. • FT5000 Neuron chip communication processor. • Battery backup high accuracy real-time clock with watchdog timer provided for high reliability operation. • High speed 12 bits A/D converter with programmable gain amplifier yields high speed and accuracy reading. • 12 bits D/A converter to provide high precision controls. • Non-volatile memory for retention of configuration properties in event of power loss. • Detachable terminal blocks to allow fast installation and easy maintenance. 	



Sales and technical support by
Matrix iControl Sdn. Bhd.

67-2 Jln Wangsa Delima 5, Sec 5 Wangsa Maju, 53300 Kuala Lumpur

www.matrix-controls.net

Email: lsc@matrix-engineers.com

Tel: +65 9230 8930

Technical Specification

Analogue Inputs	8 channels high speed 12 bit resolution A/D conversion. Configurable for ; 0 - 10V (+/- 1% V) , 4 - 20mA (+/- 1% mA) , 0 - 20mA (+/- 1% mA), 0 - 30K Ω (+/- 1% Ω), 10K Ω thermistor, or PT1000, Both (+/- 1% $^{\circ}$ C).
Digital Outputs	8 channels single pole single throw normally open output. 48VA at 24VAC, Pilot Duty.
Analogue Outputs	2 channels (12 bits resolution) analogue output. Configurable for; 0 to 10 volts, 4 to 20mA or 0 to 20mA (up to 800 Ohm load if input power is 24VDC or 1000 Ohm if input power is 24VAC.)
Power Supply	24VAC +/- 5%, or (24~34) +/- 5%VDC.
Power Consumption	3.6VA (Max), 300mA max @ 24VDC.
Operating & Storage Environment	Operating Temperature: 32 $^{\circ}$ to 150 $^{\circ}$ F (0 $^{\circ}$ to 65 $^{\circ}$ C) Storage Temperature: -4 $^{\circ}$ to 150 $^{\circ}$ F (-20 $^{\circ}$ to 65 $^{\circ}$ C) Operating Humidity: 10% to 95% relative humidity non-condensing
Communication	FT-X3 Communication Transformer (Free Topology) 78Kbps.
Protocol	ISO/IEC 14908 ANSI/CEA 709.1-B and EN14908.1
LonMark [®] version	3.2
Sub-net Communication	1 X RS323, 2 X RS485, 1 X OPTO ISOLATE RS485
Status Indicators	Operational activity on each individual channel of DO are conveniently indicated by LED, so as the Power, Operation Communication, and Commission status
Size & Weight	170mm x 122mm x 41mm, 370gm
Cable Type	16-22AWG un-shielded / Belden 8471 un-shielded twisted pair (recommended) for Lon communication run in earthed metal conduit; Multi pair 20AWG shielded for analog inputs, analog output, digital inputs; 1.2mm ² - 1.5mm ² PVC cable for power input.
Electromagnetic Compatibility (EMC)	CE Standards EN50081-1, EN50082-1
Interoperability	Compliant with LonMark [®] interoperability requirements



Sales and technical support by
Matrix iControl Sdn. Bhd.

67-2 Jln Wangsa Delima 5, Sec 5 Wangsa Maju, 53300 Kuala Lumpur

www.matrix-controls.net

Email: lsc@matrix-engineers.com

Tel: +65 9230 8930