

MagMaster BlackBox Pro | P/N: 88001536

The Magswitch MagMaster BlackBox Pro is the ideal device for controlling Magswitch E-Series magnets. The BlackBox Pro is an EtherNet/IP Device that provides a plug and play interface between a robot or PLC and the Magswitch E-series magnets. The Pro version has the additional benefit of reporting individual pole shoe readings, giving the user more flexibility and options while using the part present capabilities of the E-series magnets.

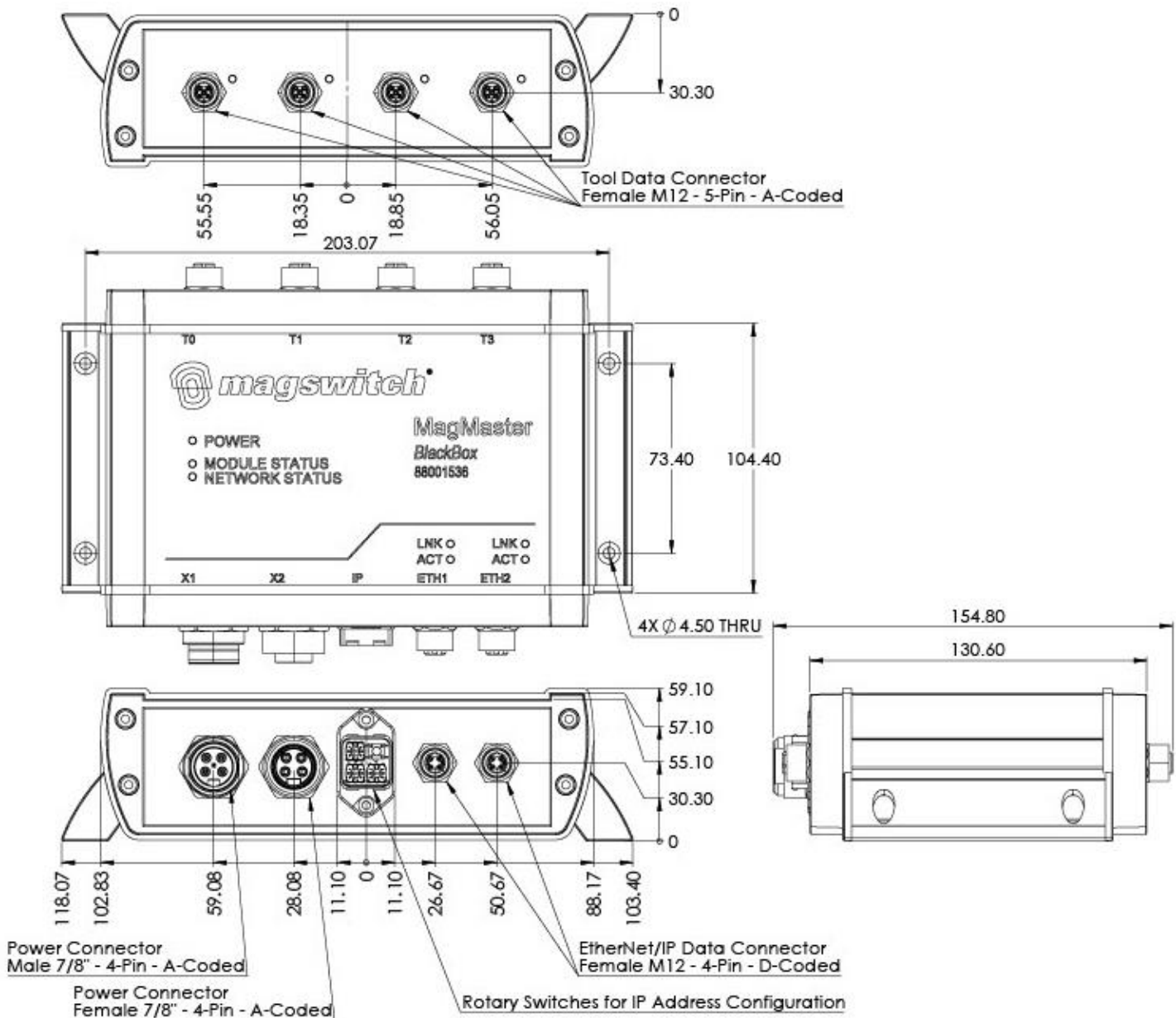
Specifications



Nominal Supply Voltage	24 V DC	
Peak Power Draw	10 A @ 24 V DC	
Net Weight	3.3 lb	1.5 kg
Connector Type	Power: Male 7/8" - 4-Pin - A-coded Power: Female 7/8" - 4-Pin - A-coded 2x EtherNet/IP Data: Female M12 - 4-Pin – D-coded 4x Tool Data: Female M12x1.0 – 5 Pin – A-coded	
Mounting Options	4x M4	

Standard Kits Available:

270461	CORDSET, M12 SM-SF, 5M, HI-FLEX, MAGMASTER CANOPEN CABLE
270440	CORDSET, M12 SM-SF, 3M HI-FLEX, MAGMASTER CANOPEN CABLE
270441	CORDSET, M12 SM-SF, 2M HI-FLEX, MAGMASTER CANOPEN CABLE
270454	CORDSET, M12 SM-SF, 2M, MAGMASTER CANOPEN CABLE
270261	CORDSET, M12 SM-SF, 1.2M, MAGMASTER CANOPEN CABLE



General Electrical Characteristics

Parameter	Value
Input Voltage Range	20-32 V DC
Rated Current Draw (Peak)	10A DC @ 24 V DC
Rated Current Draw (Continuous) – no tools actuating	100 mA DC @ 24 V DC
Connector Style	Power: Male 7/8" - 4-Pin - A-coded Power: Female 7/8" - 4-Pin - A-coded 2x EtherNet/IP Data: Female M12 - 4-Pin – D-coded 4x Tool Data: Female M12x1.0 – 5 Pin – A-coded

Ambient Conditions

Parameter	Range
Ambient Temperature (Operation)	-10 to +40 Degrees Celsius
Ambient Temperature (Storage)	-25 to +80 Degrees Celsius
Relative Humidity (non-condensing)	0 to 95%
Ingress Protection (IP) Rating	IP67

LED Color Codes

LED	Color	Status	Description
Power	Green	Solid	The μ C part of the device has power
		Off	No power or device damaged
Module Status	Green	Solid	Device is ready
		Off	Device is not ready, usually still in boot process
Network Status	Green	Solid	EtherNet/IP connection established
		Flashing	EtherNet/IP connection is gone
	Red	Flashing	EtherNet/IP Time Out
		Off	No EtherNet/IP connection since bootup
LNK (ETH1/ETH2)	Green	Solid	Ethernet link established
		Off	No Ethernet link
ACT (ETH1/ETH2)	Orange	Flashing	Ethernet activity
		Off	No Ethernet link
T0 – T3	Green	Solid	CANopen bus logic level "high", usually bad wiring or damaged CANopen device
		Flashing	CANopen bus communication
		Off	CANopen bus logic level "low", normal if no CANopen communication

Connector Pinouts

Male/Female Power Connectors (7/8" 4-Pin)

Pin #	Function	Logic
1	V2 (V+)	+24 VDC
2	V1 (V+)	+24 VDC
3	GND V1 (V-)	GND
4	GND V2 (V-)	GND



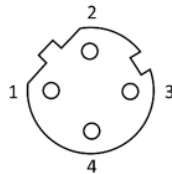
Pin Assignment 7/8", 4-pin, A-coded, Female Connector (socket-side) View



Pin Assignment 7/8", 4-pin, A-coded, Male Connector (pin-side) View

Female EtherNet/IP Connectors (M12 4-Pin D-coded)

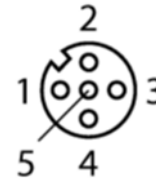
Pin #	Function
1	TX +
2	RX +
3	TX -
4	RX -



Pin Assignment M12, 4-pin, D-coded, Female Connector (socket-side) View

Tool Data Connector (M12 5-Pin)

Pin #	Function	Logic
1	Signal Shield	-
2	V1 (V+)	+24 V DC
3	GND V1 (V-)	GND
4	CANopen bus high	TX/RX high line (D1) (CAN H)
5	CANopen bus low	TX/RX low line (D0) (CAN L)

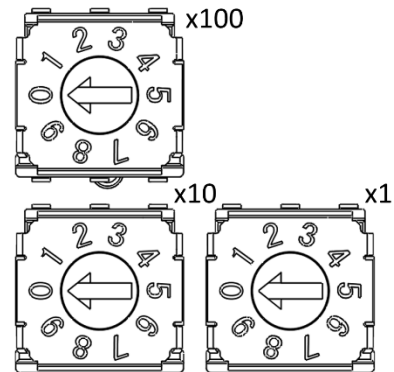


Pin Assignment M12, 5-pin, A-coded, Female Connector (socket-side) View

Rotary Switches for IP Address Configuration

Rotary Switch Code*	IP Address	Note
999	192.168.1.254	
255 or Greater	192.168.1.254	
254 or less	Sets the last octet	First 3 octets can be customized from web interface. Default is 192.168.1.XXX
000	DHCP	

*This Requires restart after changing rotary switches



To access web interface, go to IP address in a web browser.

Default Gateway: 192.168.1.1 – changeable via web interface when rotary switches 254 or less

Default Subnet Mask: 255.255.255.0 – changeable via web interface when rotary switches 254 or less

Default IP Address: 192.168.1.39 – The rotary switches ship with the IP address set to "039"