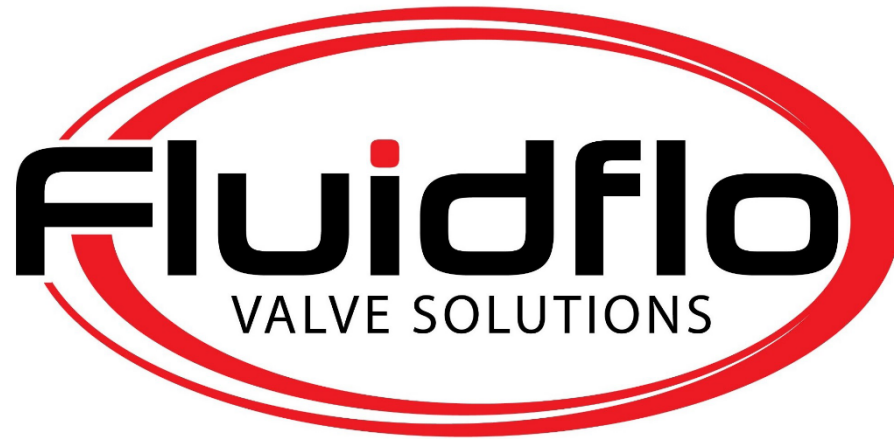




MT SERIES 10 - 400 Nm

DATA SHEETS & SUPPORT DOCUMENTS



MT SERIES 10 - DATA SHEET



Technical Specifications (Basic Series)

Rated Torque Nm (in.lbs):	12Nm Break (106) / Run 10Nm (88)	Enclosure:	PC+ PET Plastic Housing
ISO 5211:	F03/05 x 11mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	5 seconds
Connecting Cable:	0.8m prewired AC300V rated 7 core*	IP Rating:	IP67 / Nema 4x
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical Flat Window.	Installation:	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute.	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS ****

Technical Specifications: (Smart Series)

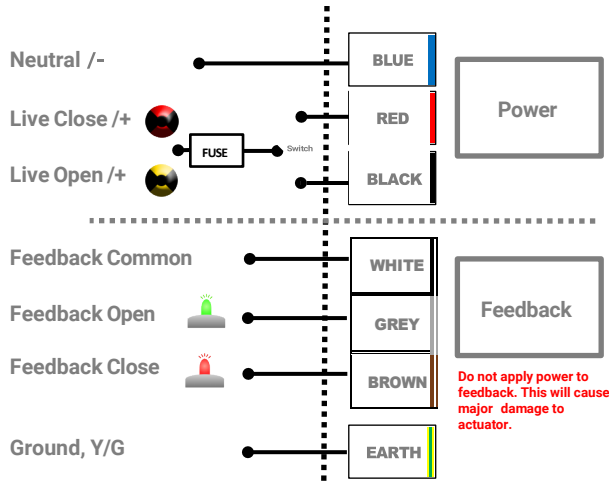
Rated Torque Nm (in.lbs):	12Nm Break (106) / Run 10Nm (88).	Alarm Relay:	Option for fault alarm output
ISO 5211:	F03/05 x 11mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	5 seconds
Connecting Cable:	0.8m prewired AC300V rated 7 core*	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 10 - POWER & WIRING

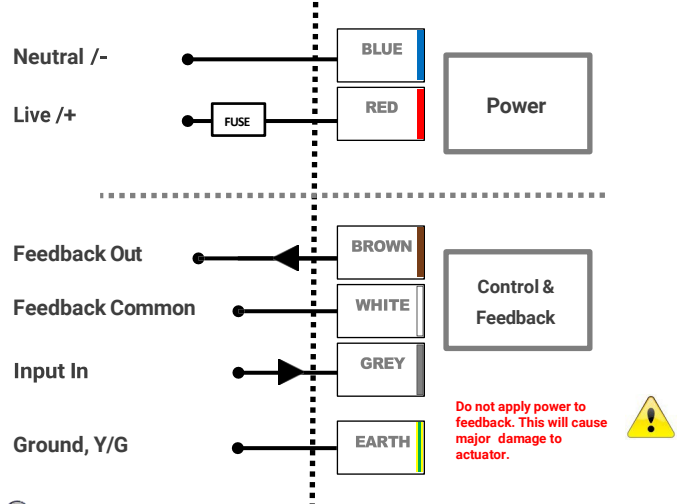


Standard On Off, Failsafe and Hi-Speed Open/Close Wiring: Additional wiring options available online.

Standard Modulating including Failsafe and Hi-Speed Wiring: Additional wiring options available online.



Failsafe versions have internal capacitor, this is charged whilst power is applied. When power is removed, the actuator will close or open depending on what you have ordered. Re-apply power and the capacitor will charge again and is always being charged when power is applied. When actuator is powered, heater is working.

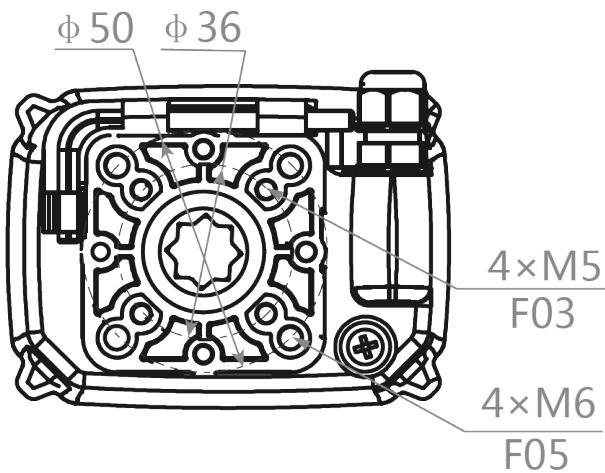
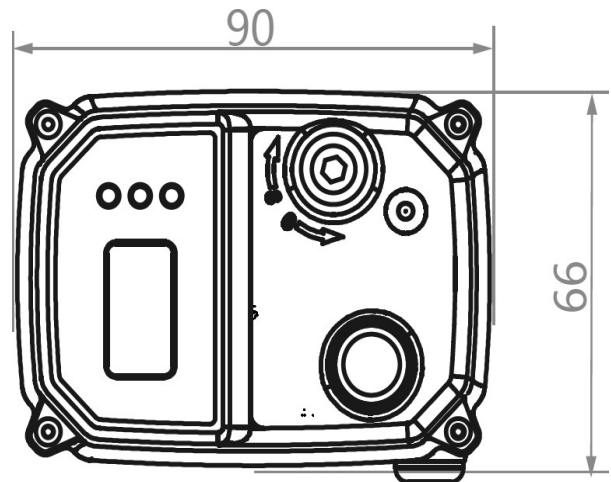
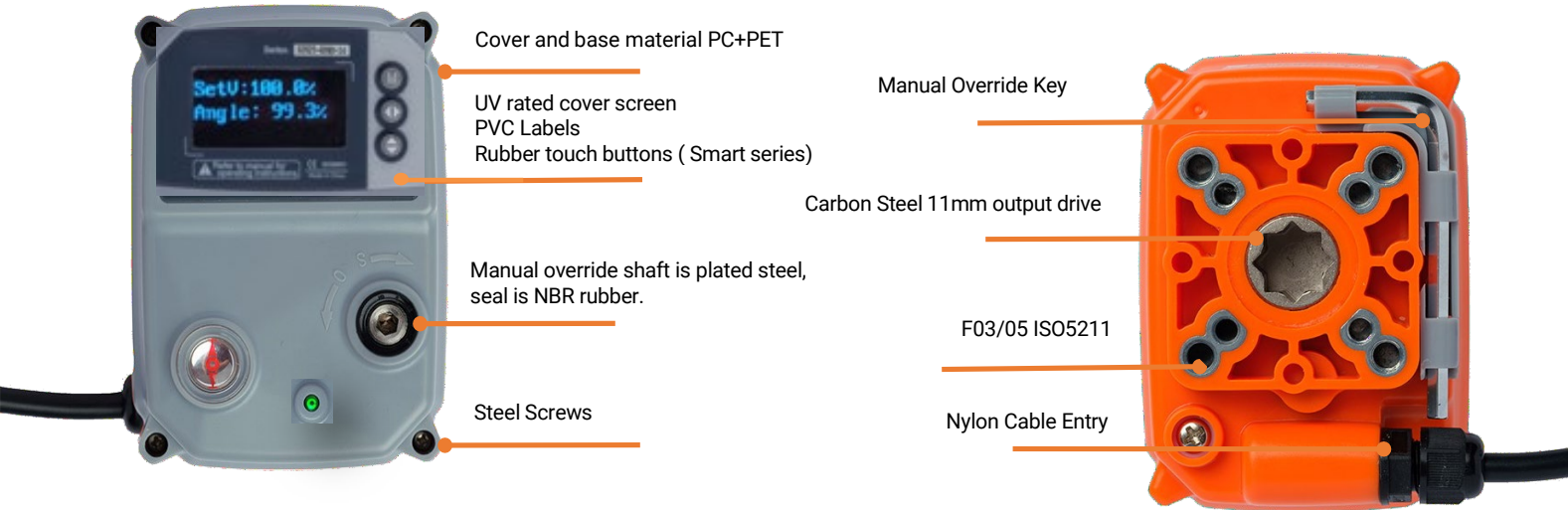


Note that Black is not used as standard unless Alarm Relay option is selected. Separate wiring schematic available for actuators with alarm. For Series 10, you must order the specific Control you require, you cannot select between Control input via firmware as you can with Series 50-400

Power Ratings for most common series: including run torque and peak current for sizing power supply

P/N (Basic)	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB-10-5-11	95-265VAC	12W	5s	1A	100W	MTS-1025-5-11	95-265VAC	12W	5s	1A	100W
MTB-10-6-11	24VAC/DC	12W	5s	5A	100W	MTS-1025-6-11	24VAC/DC	12W	5s	5A	100W
MTB-1014-5-11	95-265VAC	20W	5s	1A	100W	MTS-1026-5-11	95-265VAC	20W	5s	1A	100W
MTB-1014-6-11	24VAC/DC	20W	5s	5A	100W	MTS-1026-6-11	24VAC/DC	20W	5s	5A	100W
MTB-1019-5-11	95-265VAC	50W	3s	1A	100W	MTS-1029-5-11	95-265VAC	50W	4s	1A	100W
MTB-1019-4-11	24VDC	50W	1s	5A	100W	MTS-1029-4-11	24VDC	50W	4s	5A	100W
MTS-1010-5-11	95-265VAC	12W	5s	1A	100W	MTS-1031-5-11	95-265VAC	12W	5s	1A	100W
MTS-1010-6-11	24VAC/DC	12W	5s	5A	100W	MTS-1031-6-11	24VAC/DC	12W	5s	5A	100W
MTS-1014-5-11	95-265VAC	20W	5s	1A	100W	MTS-1034-5-11	95-265VAC	20W	5s	1A	100W
MTS-1014-6-11	24VAC/DC	20W	5s	5A	100W	MTS-1034-6-11	24VAC/DC	20W	5s	5A	100W
MTS-1019-5-11	95-265VAC	50W	3s	1A	100W	MTS-1035-5-11	95-265VAC	50W	5s	1A	100W
MTS-1019-4-11	24VDC	50W	1s	5A	100W	MTS-1035-6-11	24VDC	50W	5s	5A	100W
Function: Basic (MTB) / Smart (MTS)											
On / Off = 10		High Speed = 1019		Modulating & Failsafe = 1026		On / Off Modbus = 1031		Modulating Modbus = 1035			
Failsafe = 1014		Modulating = 1025		Modulating & High Speed = 1029		Failsafe Modbus = 1034					

MT SERIES 10 - MATERIALS & DIMENSIONS



MT SERIES 20 - DATA SHEET



Technical Specifications (Basic Series)

Rated Torque Nm (in.lbs):	25Nm Break (221) / Run 20Nm (178)	Enclosure:	PC+ PET Plastic Housing
ISO 5211:	F03/04/05 x 14mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-15 seconds
Connecting Cable:	0.8m prewired AC300V rated 7 core*	IP Rating:	IP67 / Nema 4x
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical dome Window.	Installation:	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute.	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS ****

Technical Specifications: (Smart Series)

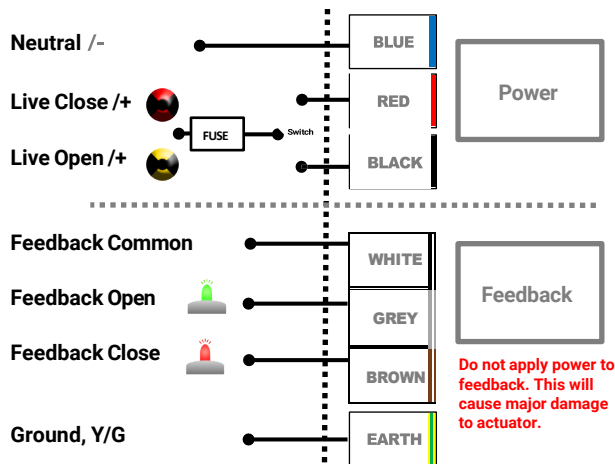
Rated Torque Nm (in.lbs):	25Nm Break (221) / Run 20Nm (178)	Alarm Relay:	Option for fault alarm output
ISO 5211:	F03/04/05 x 14mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-15 seconds
Connecting Cable:	0.8m prewired AC300V rated 7 core*	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 20 - POWER & WIRING



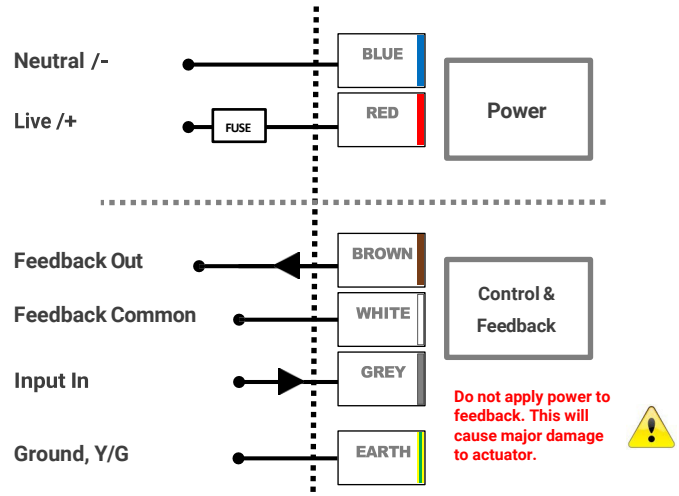
Standard On Off, Failsafe and Hi-Speed Open/Close Wiring: Additional wiring options available online.

Standard Modulating including Failsafe and Hi-Speed Wiring: Additional wiring options available online.



Failsafe versions have internal capacitor, this is charged whilst power is applied. When power is removed, the actuator will close or open depending on what you have ordered. Re-apply power and the capacitor will charge again and is always being charged when power is applied.

When actuator is powered, heater is working.



Note that Black is not used as standard unless Alarm Relay option is selected. Separate wiring schematic available for actuators with alarm. For Series 10, you must order the specific Control you require, you cannot select between Control input via firmware as you can with Series 50-400

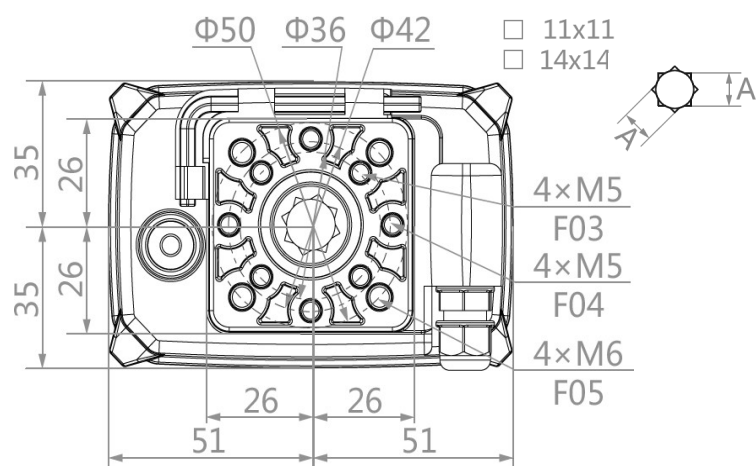
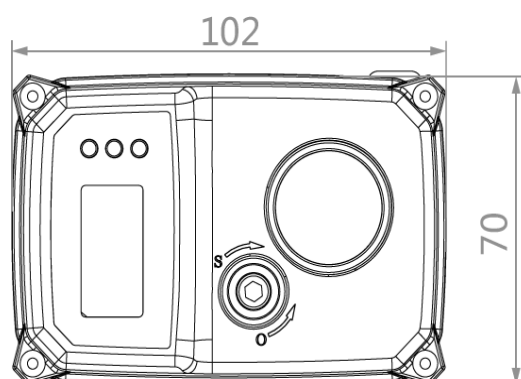
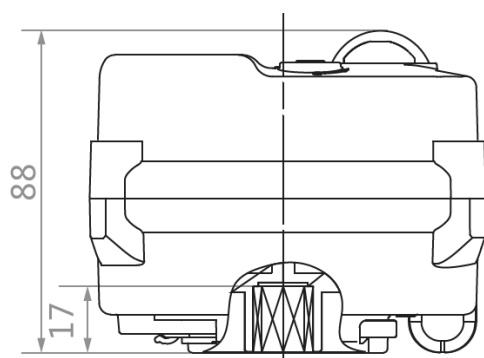
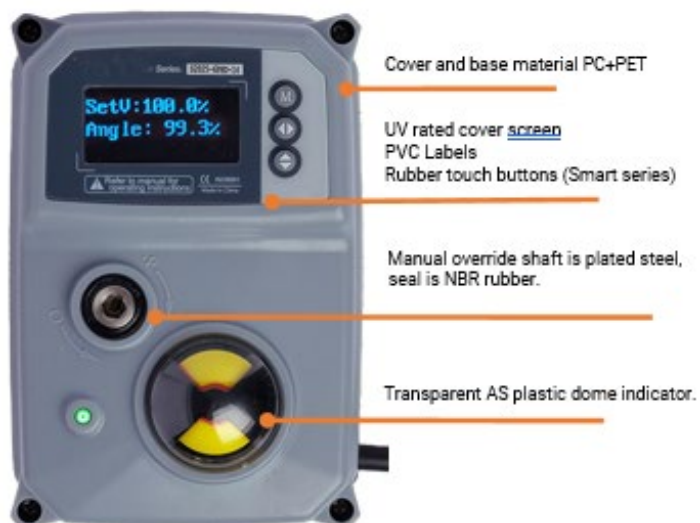
Power Ratings for most common series: including run torque and peak current for sizing power supply

P/N (Basic/Smart)	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB-20-5-14	95-265VAC	15W	10s	2A	1A	MTS-2025-5-14	95-265VAC	15W	5s	2A	1A
MTB-20-6-14	24VAC/DC	15W	5s	2A	1A	MTS-2025-6-14	24VAC/DC	15W	5s	2A	1A
MTB-204-5-14	95-265VAC	36W	5s	4A	1A	MTS-2026-5-14	95-265VAC	36W	5s	4A	1A
MTB-204-6-14	24VAC/DC	36W	5s	4A	1A	MTS-2026-6-14	24VAC/DC	36W	5s	4A	1A
MTB-219-5-14	95-265VAC	85W	3s	10A	1A	MTS-2029-5-14	95-265VAC	85W	4s	10A	1A
MTB-219-4-14	24VDC	85W	1s	10A	1A	MTS-2029-4-14	24VDC	85W	4s	10A	1A
MTS-2010-5-14	95-265VAC	15W	5s	2A	1A	MTS-2031-5-14	95-265VAC	15W	5s	2A	1A
MTS-2010-6-14	24VAC/DC	15W	5s	2A	1A	MTS-2031-6-14	24VAC/DC	15W	5s	2A	1A
MTS-2014-5-14	95-265VAC	36W	5s	4A	1A	MTS-2034-5-14	95-265VAC	36W	5s	4A	1A
MTS-2014-6-14	24VAC/DC	36W	5s	4A	1A	MTS-2034-6-14	24VAC/DC	36W	5s	4A	1A
MTS-2019-5-14	95-265VAC	85W	3s	10A	1A	MTS-2035-5-14	95-265VAC	85W	5s	10A	1A
MTS-2019-4-14	24VDC	85W	1s	10A	1A	MTS-2035-6-14	24VDC	85W	5s	10A	1A

Function: Basic (MTB) / Smart (MTS)

On / Off = 20/2010	High Speed = 219/2019	Modulating & Failsafe = 2026	On / Off Modbus = 2031	Modulating Modbus = 2035
Failsafe = 204/2014	Modulating = 2025	Modulating & High Speed = 2029	Failsafe Modbus = 2034	

MT SERIES 20 - MATERIALS & DIMENSIONS



MT SERIES 50 - DATA SHEET



Technical Specifications (Basic Series)

Rated Torque Nm (in.lbs):	60Nm Break (532) / Run 50Nm (443)	Enclosure:	PC+ PET Plastic Housing
ISO 5211:	F05/07 x 14mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-12 seconds
Connecting Cable:	0.8m prewired AC300V rated 7 core*	IP Rating:	IP67 / Nema 4x
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical dome Window. See above	Installation:	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute.	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS ****

Technical Specifications: (Smart Series)

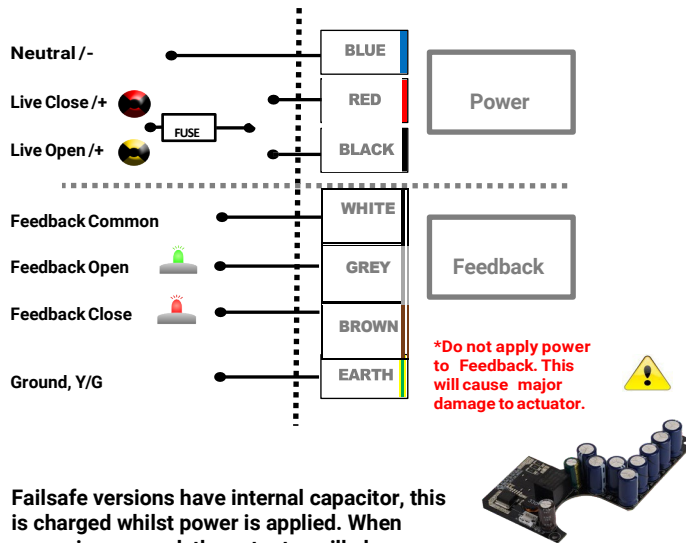
Rated Torque Nm (in.lbs):	60Nm Break (532) / Run 50Nm (443)	Alarm Relay:	Option for fault alarm output
ISO 5211:	F05/07 x 14mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-12 seconds
Connecting Cable:	0.8m prewired AC300V rated 7 core*	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 50 - POWER & WIRING

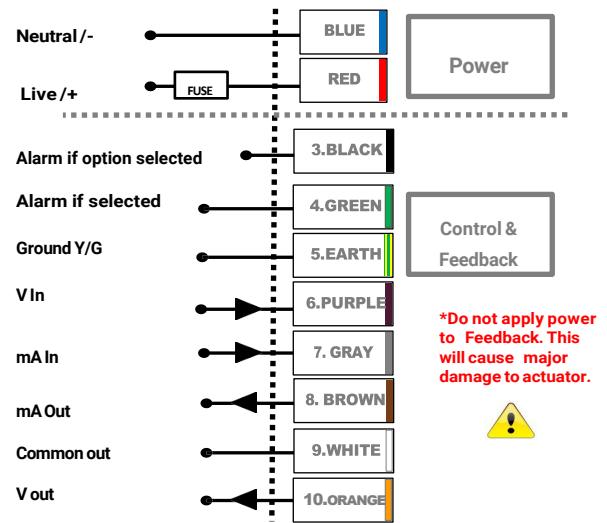


Standard On Off, Failsafe and Hi-Speed Open/Close Wiring: Additional wiring options available online.

Standard Modulating including Failsafe and Hi-Speed Wiring: Additional wiring options available online.



Failsafe versions have internal capacitor, this is charged whilst power is applied. When power is removed, the actuator will close or open de-pending on what you have ordered. Re-apply power and the capacitor will charge again and is always being charged when power is applied. When actuator is powered, heater is working.



Modulating 50-110Nm Series have 10 core terminal connection within the wiring box. This allows for the user to wire 'either' Volts or mA's for the input control. Black and Green terminals are only used if the ALARM relay is ordered and connected.

Power Ratings for most common series: including run torque and peak current for sizing power supply

P/N (Basic/Smart)	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB-50-5-14	95-265VAC	25W	12s	4A	2.5A	MTS-5025-5-14	95-265VAC	40W	12s	4A	2.5A
MTB-50-6-14	24VAC/DC	25W	12s	4A	2.5A	MTS-5025-6-14	24VAC/DC	40W	12s	4A	2.5A
MTB-504-5-14	95-265VAC	40W	12s	4A	2.5A	MTS-5026-5-14	95-265VAC	40W	12s	4A	2.5A
MTB-504-6-14	24VAC/DC	40W	5-6s	4A	2.5A	MTS-5026-6-14	24VAC/DC	40W	12s	4A	2.5A
MTB-519-5-14	95-265VAC	40W	5-6s	4A	2.5A	MTS-5029-5-14	95-265VAC	40W	5s	4A	2.5A
MTB-519-4-14	24VDC	40W	1s	4A	2.5A	MTS-5029-4-14	24VDC	40W	5s	4A	2.5A
MTS-5010-5-14	95-265VAC	25W	12s	4A	2.5A	MTS-5031-5-14	95-265VAC	40W	12s	4A	2.5A
MTS-5010-6-14	24VAC/DC	15W	12s	4A	2.5A	MTS-5031-6-14	24VAC/DC	40W	12s	4A	2.5A
MTS-5014-5-14	95-265VAC	40W	12s	4A	2.5A	MTS-5034-5-14	95-265VAC	40W	12s	4A	2.5A
MTS-5014-6-14	24VAC/DC	40W	12s	4A	2.5A	MTS-5034-6-14	24VAC/DC	40W	12s	4A	2.5A
MTS-5019-5-14	95-265VAC	40W	5s	4A	2.5A	MTS-5035-5-14	95-265VAC	40W	12s	4A	2.5A

Function: Basic (MTB) / Smart (MTS)

On / Off = 50/5010	High Speed = 519/5019	Modulating & Failsafe = 5026	On / Off Modbus = 5031	Modulating Modbus = 5035
Failsafe = 504/5014	Modulating = 5025	Modulating & High Speed = 5029	Failsafe Modbus = 5034	

MT SERIES 50 - MATERIALS & DIMENSIONS



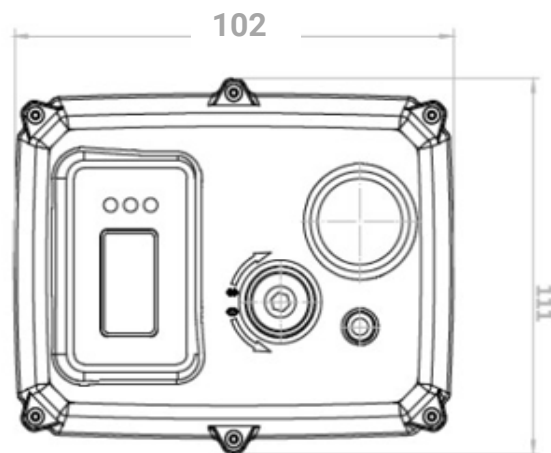
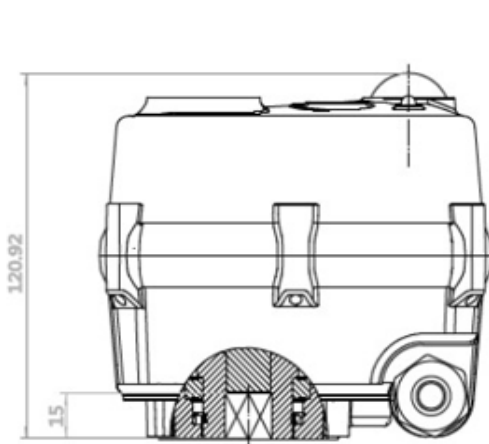
- Cover and base material PC+PET
- UV rated cover screen
- PVC Labels
- Rubber touch buttons (Smart series)
- Manual override shaft w/ NBR rubber seal.
- Steel Screws

Manual Override Key

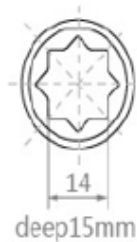
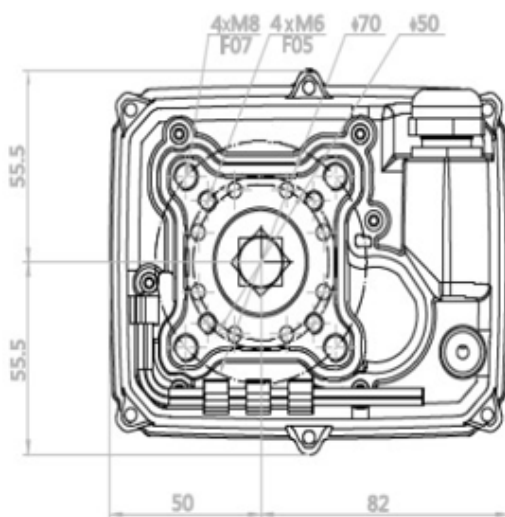
Carbon Steel 14mm output drive

F05/07 ISO5211

Nylon Cable Entry



Basic and Smart series are the same physical size.



MT SERIES 80 - DATA SHEET



Technical Specifications (Basic Series)

Rated Torque Nm (in.lbs):	90Nm Break (796) / Run 80Nm (708)	Enclosure:	PC+ PET Plastic Housing
ISO 5211:	F05/07 x 17mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-12 seconds
Connecting Cable:	2 x M14 Conduit Wiring Box	IP Rating:	IP67 / Nema 4x
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical dome Window. See above	Installation:	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute.	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS ****

Technical Specifications: (Smart Series)

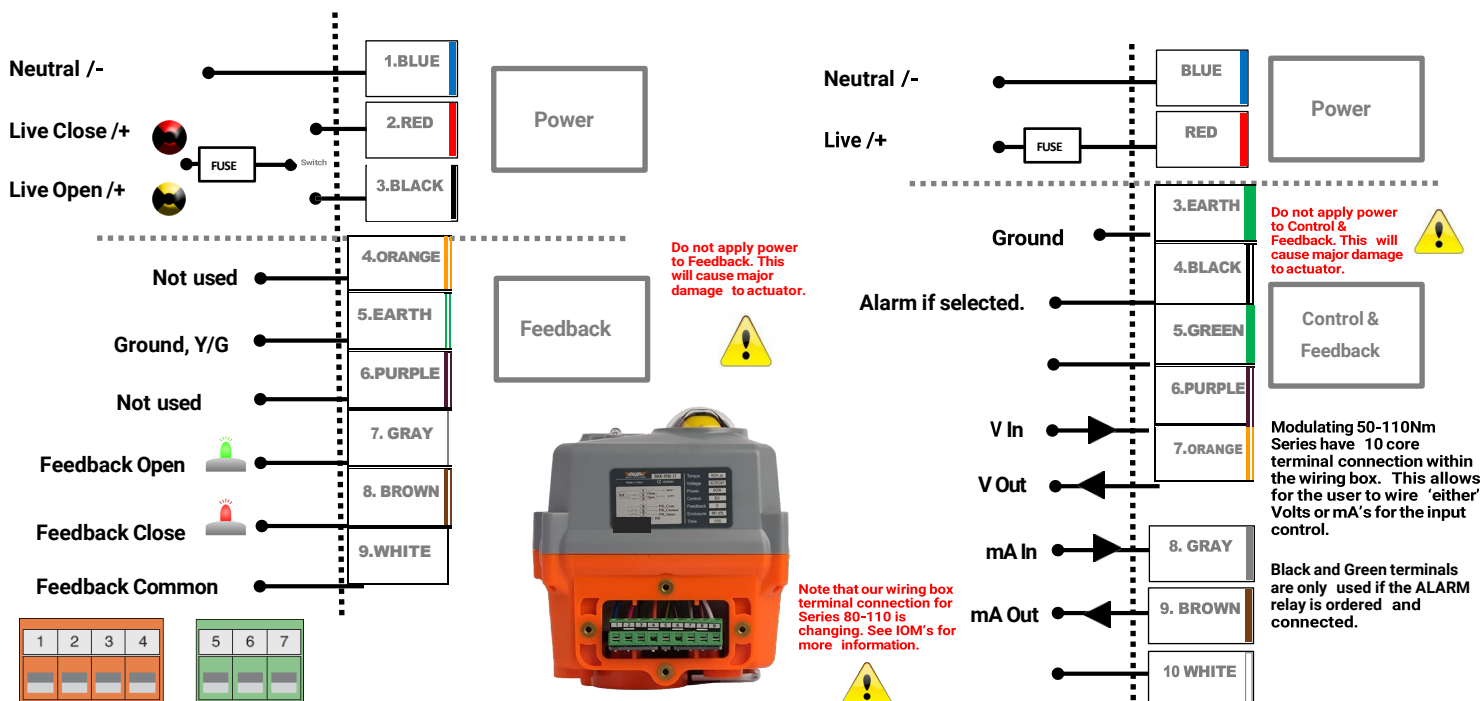
Rated Torque Nm (in.lbs):	90Nm Break (796) / Run 80Nm (708)	Alarm Relay:	Option for fault alarm output
ISO 5211:	F05/07 x 17mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-12 seconds
Connecting Cable:	2 x M14 Conduit Wiring Box	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 80 - POWER & WIRING



Standard On Off, Failsafe and Hi-Speed
Open/Close Wiring: Additional wiring options
available online.

Standard Modulating including Failsafe and Hi-Speed
Wiring: Additional wiring options available online.



Power Ratings for most common series: including run torque and peak current for sizing power supply

P/N (Basic/Smart)	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB-80-5-14	95-265VAC	60W	10s	4A	3A	MTS-8025-5-14	95-265VAC	60W	10s	4A	3A
MTB-80-6-14	24VAC/DC	60W	10s	4A	3A	MTS-8025-6-14	24VAC/DC	60W	10s	4A	3A
MTB-814-5-14	95-265VAC	60W	10s	10A	3A	MTS-8026-5-14	95-265VAC	60W	10s	10A	3A
MTB-814-6-14	24VAC/DC	60W	10s	10A	3A	MTS-8026-6-14	24VAC/DC	60W	10s	10A	3A
MTB-819-5-14	95-265VAC	60W	6s	10A	3A	MTS-8029-5-14	95-265VAC	60W	6s	10A	3A
MTB-819-4-14	24VDC	60W	6s	10A	3A	MTS-8029-4-14	24VDC	60W	6s	10A	3A
MTS-8010-5-14	95-265VAC	60W	10s	4A	3A	MTS-8031-5-14	95-265VAC	60W	10s	4A	3A
MTS-8010-6-14	24VAC/DC	60W	10s	4A	3A	MTS-8031-6-14	24VAC/DC	60W	10s	4A	3A
MTS-8014-5-14	95-265VAC	60W	10s	10A	3A	MTS-8034-5-14	95-265VAC	60W	10s	10A	3A
MTS-8014-6-14	24VAC/DC	60W	10s	10A	3A	MTS-8034-6-14	24VAC/DC	60W	10s	10A	3A
MTS-8019-5-14	95-265VAC	60W	6s	10A	3A	MTS-8035-5-14	95-265VAC	60W	6s	10A	3A
MTS-8019-4-14	24VDC	60W	6s	10A	3A	MTS-8035-6-14	24VDC	60W	6s	10A	3A

Function: Basic (MTB) / Smart (MTS)

On / Off = 80/8010	High Speed = 819/8019	Modulating & Failsafe = 8026	On / Off Modbus = 8031	Modulating Modbus = 8035
Failsafe = 814/8014	Modulating = 8025	Modulating & High Speed = 8029	Failsafe Modbus = 8034	

MT SERIES 110 - DATA SHEET



Technical Specifications (Basic Series)

Rated Torque Nm (in.lbs):	140Nm Break (1240) / Run 110Nm (974)	Enclosure:	PC+ PET Plastic Housing
ISO 5211:	F05/07 x 17mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-12 seconds
Connecting Cable:	2 x M14 Conduit Wiring Box	IP Rating:	IP67 / Nema 4x
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical dome Window. See above	Installation:	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute.	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS ****

Technical Specifications: (Smart Series)

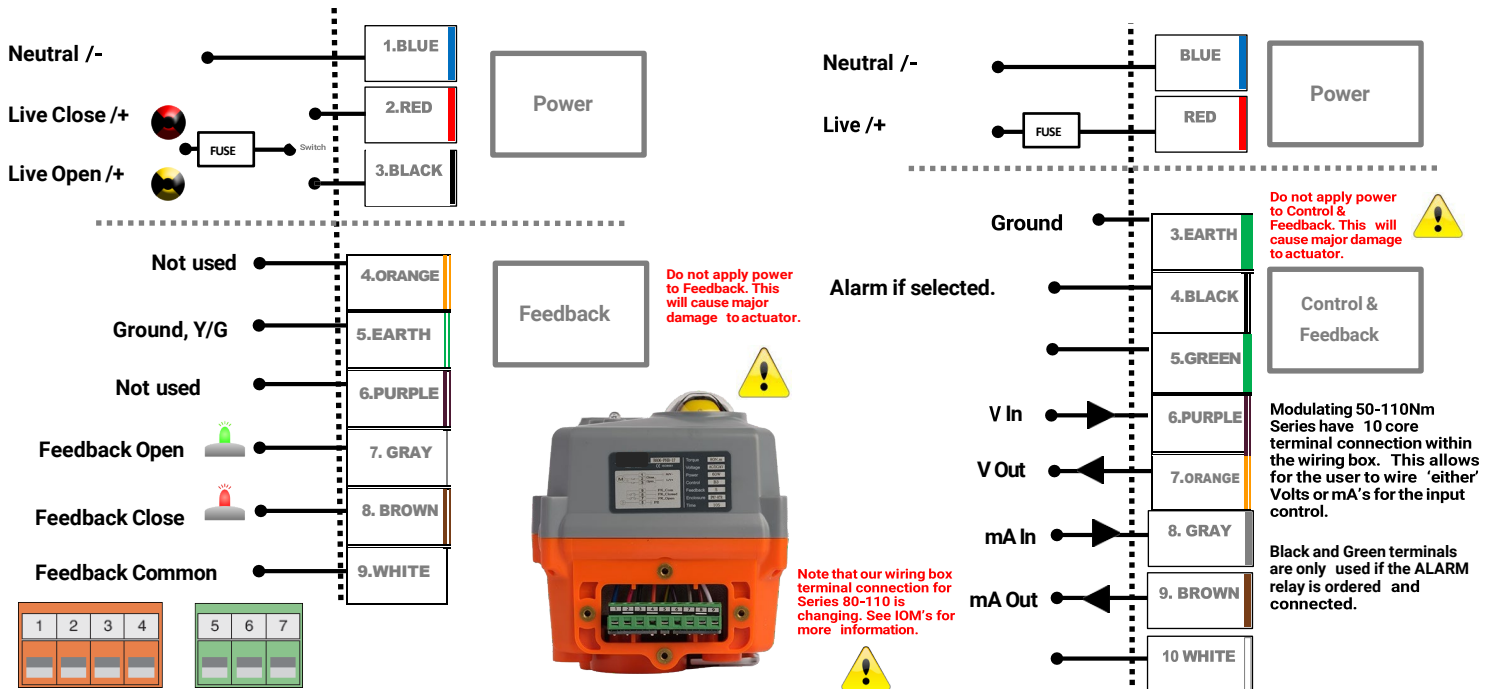
Rated Torque Nm (in.lbs):	140Nm Break (1240) / Run 110Nm (974)	Alarm Relay:	Option for fault alarm output
ISO 5211:	F05/07 x 17mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC, 12VDC	Run Time no load:	10-12 seconds
Connecting Cable:	2 x M14 Conduit Wiring Box	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 110 - POWER & WIRING



Standard On Off, Failsafe and Hi-Speed
Open/Close Wiring: Additional wiring options
available online.

Standard Modulating including Failsafe and Hi-Speed
Wiring: Additional wiring options available online.



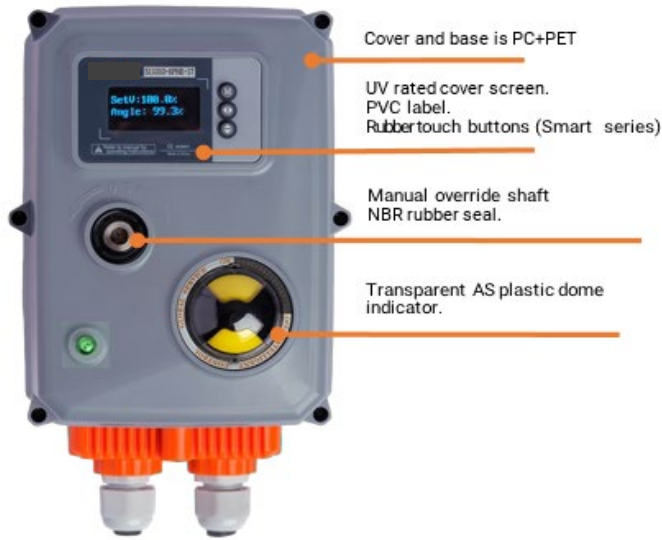
Power Ratings for most common series: including run torque and peak current for sizing power supply

P/N (Basic/Smart))	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB-110-5-17	95-265VAC	100W	10s	10A	3A	MTS-11025-5-17	95-265VAC	100W	10s	10A	3A
MTB-110-6-17	24VAC/DC	100W	10s	10A	3A	MTS-11025-6-17	24VAC/DC	100W	10s	10A	3A
MTB-114-5-17	95-265VAC	100W	10s	10A	6A	MTS-11026-5-17	95-265VAC	100W	10s	10A	6A
MTB-114-6-17	24VAC/DC	100W	10s	10A	6A	MTS-11026-6-17	24VAC/DC	100W	10s	10A	6A
MTB-119-5-17	95-265VAC	100W	10s	10A	6A	MTS-11029-5-17	95-265VAC	100W	10s	10A	6A
MTB-119-4-17	24VDC	100W	6s	10A	6A	MTS-11029-4-17	24VDC	100W	6s	10A	6A
MTS-11010-5-17	95-265VAC	100W	10s	10A	3A	MTS-11031-5-17	95-265VAC	100W	10s	10A	3A
MTS-11010-6-17	24VAC/DC	100W	10s	10A	3A	MTS-11031-6-17	24VAC/DC	100W	10s	10A	3A
MTS-11014-5-17	95-265VAC	100W	10s	10A	6A	MTS-11034-5-17	95-265VAC	100W	10s	10A	6A
MTS-11014-6-17	24VAC/DC	100W	10s	10A	6A	MTS-11034-6-17	24VAC/DC	100W	10s	10A	6A
MTS-11019-5-17	95-265VAC	100W	6s	10A	6A	MTS-11035-5-17	95-265VAC	100W	6s	10A	6A
MTS-11019-4-17	24VDC	100W	6s	10A	6A	MTS-11035-6-17	24VDC	100W	6s	10A	6A

Function: Basic (MTB) / Smart (MTS)

On / Off = 110/11010	High Speed = 119/11019	Modulating & Failsafe = 11026	On / Off Modbus = 11031	Modulating Modbus = 11035
Failsafe = 114/11014	Modulating = 11025	Modulating & High Speed = 11029	Failsafe Modbus = 11034	

MT SERIES 80/110 - MATERIALS & DIMENSIONS



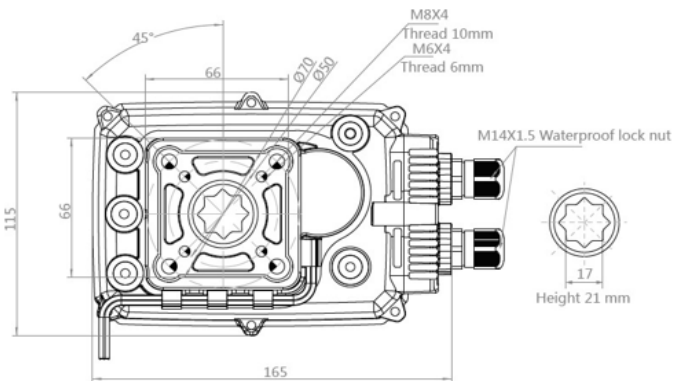
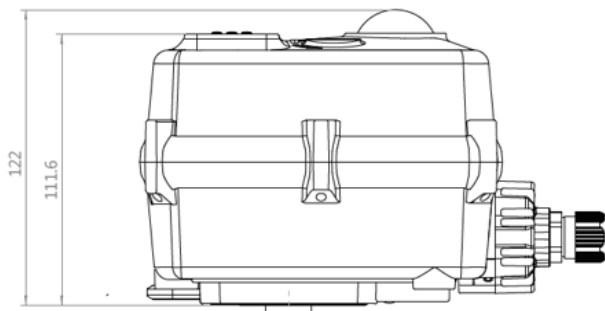
Manual Override Key

17mm Output drive

F05/07 ISO 5211

Screws are SS304

Nylon cable entry



* Note that the Basic and Smart series are the same physical size.



MT SERIES 200 - DATA SHEET



Technical Specifications: (Basic Series)

Rated Torque Nm (in.lbs):	240Nm Break (2124) / Run 200Nm (1170)	Enclosure:	PC+ PET Plastic Housing ** IP67/Nema 4X
ISO 5211:	F07/10 x 22mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC	Run Time no load:	25 seconds
Connecting Cable:	2 x M20 Conduit Wiring Box	Weight:	6Kg - only available in plastic currently
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C ***
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical Dome Window. As above	Installation :	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS***

Technical Specifications: (Smart Series)

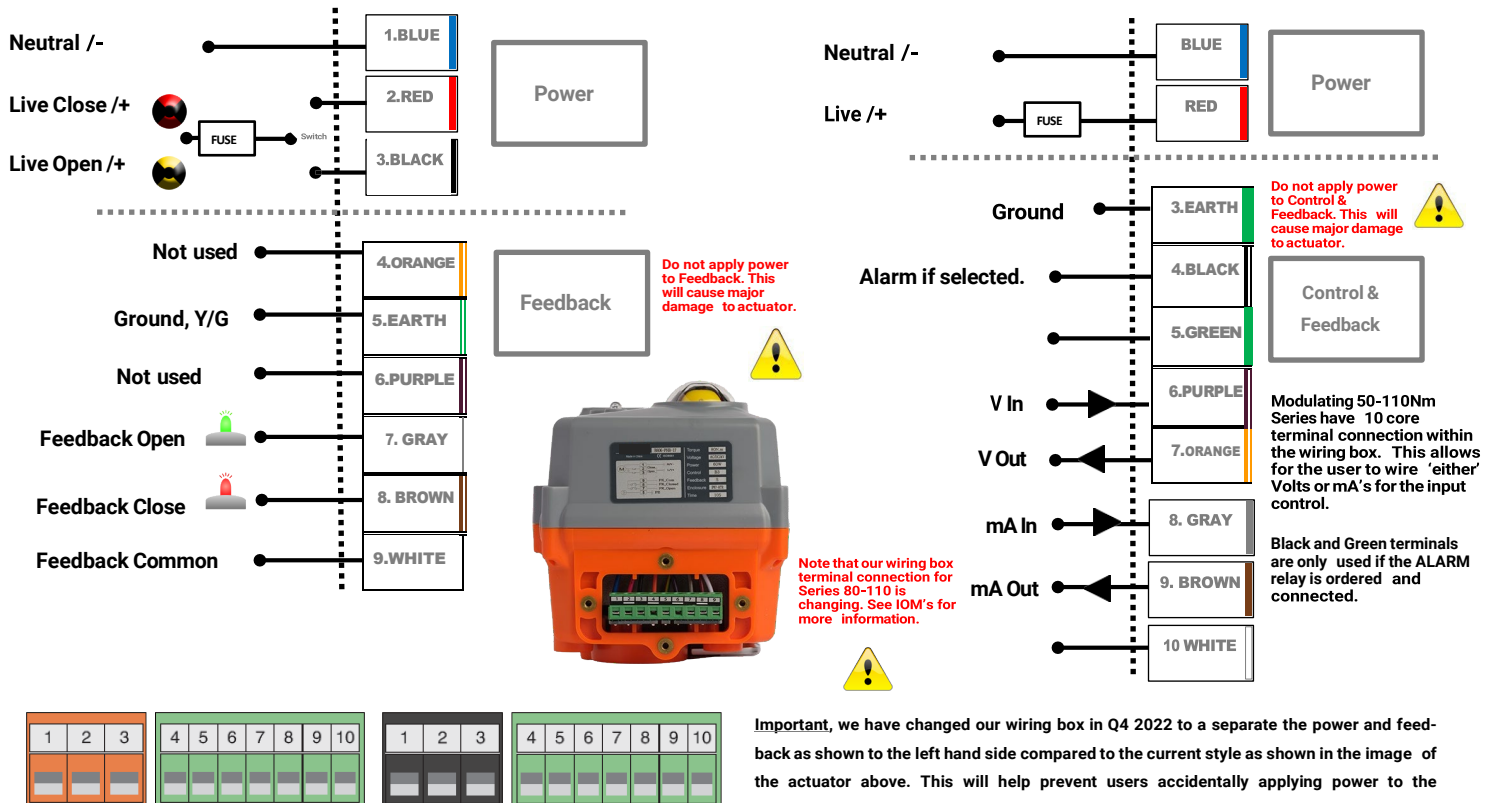
Rated Torque Nm (in.lbs):	240Nm Break (2124) / Run 200Nm (1170)	Alarm Relay:	Option for fault alarm output
ISO 5211:	F07/10 x 22mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC,	Run Time no load:	25 seconds
Connecting Cable:	2 x M20 Conduit Wiring Box	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 200 - POWER & WIRING



Standard On Off, Failsafe and Hi-Speed Open/Close Wiring: Additional wiring options available online.

Standard Modulating including Failsafe and Hi-Speed Wiring: Additional wiring options available online.



Power Ratings for most common series: including run torque and peak current for sizing power supply											
P/N (Basic/Smart)	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB-200-5-22	95-265VAC	120W	25s	10A	7.5A	MTS-20025-6-22	24VAC/DC	120W	25s	10A	7.5A
MTB-200-6-22	24VAC/DC	120W	25s	10A	7.5A	MTS-20026-5-22	95-265VAC	150W	25s	10A	7.5A
MTB-214-5-22	95-265VAC	150W	25s	10A	7.5A	MTS-20026-6-22	24VAC/DC	150W	25s	10A	7.5A
MTB-214-6-22	24VAC/DC	150W	25s	10A	7.5A	MTS-20031-5-22	95-265VAC	120W	25s	10A	7.5A
MTS-20010-5-22	95-265VAC	120W	25s	10A	7.5A	MTS-20031-6-22	24VAC/DC	120W	25s	10A	7.5A
MTS-20010-6-22	24VAC/DC	120W	25s	10A	7.5A	MTS-20034-5-22	95-265VAC	150W	25s	10A	7.5A
MTS-20014-5-22	95-265VAC	150W	25s	10A	7.5A	MTS-20034-6-22	24VAC/DC	150W	25s	10A	7.5A
MTS-20014-6-22	24VAC/DC	150W	25s	10A	7.5A	MTS-20035-5-22	95-265VAC	120W	25s	10A	7.5A
MTS-20025-5-22	95-265VAC	120W	25s	10A	7.5A	MTS-20035-6-22	24VAC/DC	120W	25s	10A	7.5A
Function: Basic (MTB) / Smart (MTS)											
On / Off = 200/20010		Modulating = 20025			Modulating & Failsafe = 20026		On / Off Modbus =20031		Modulating Modbus =20035		
Failsafe = 214/20014		Failsafe Modbus =20034									

MT SERIES 400 - DATA SHEET



Technical Specifications: (Basic Series)

Rated Torque Nm (in.lbs):	450Nm Break (3540) / Run 400Nm (3982)	Enclosure:	PC+ PET Plastic Housing ** IP67/Nema 4X
ISO 5211:	F07/10 x 22mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC	Run Time no load:	25 seconds
Connecting Cable:	2 x M20 Conduit Wiring Box	Weight:	6Kg - only available in plastic currently
Working Angle Range:	0-270 degrees. Set via internal cams.	Temperature Range:	-20 > +80C ***
Duty Cycle:	75% rated	Shock Resistance:	<300m/S2
Sound Power Level:	Max50dB(A)	Vibration Rating:	10 to 55Hz, 1.5mm double amplitude
Position Indicator:	Mechanical Dome Window. As above	Installation :	Vertical/Horizontal - not underslung
Withstand Voltage:	500VAC for 1 minute	Maintenance:	Maintenance Free - do not remove cover
Insulation Resistance:	100MΩ/ 500VDC	Approvals:	TUV CE & EMC Certified, REACH, RoHS***

Technical Specifications: (Smart Series)

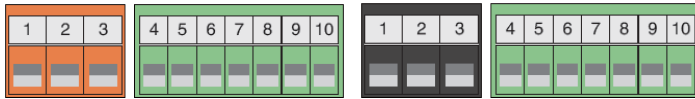
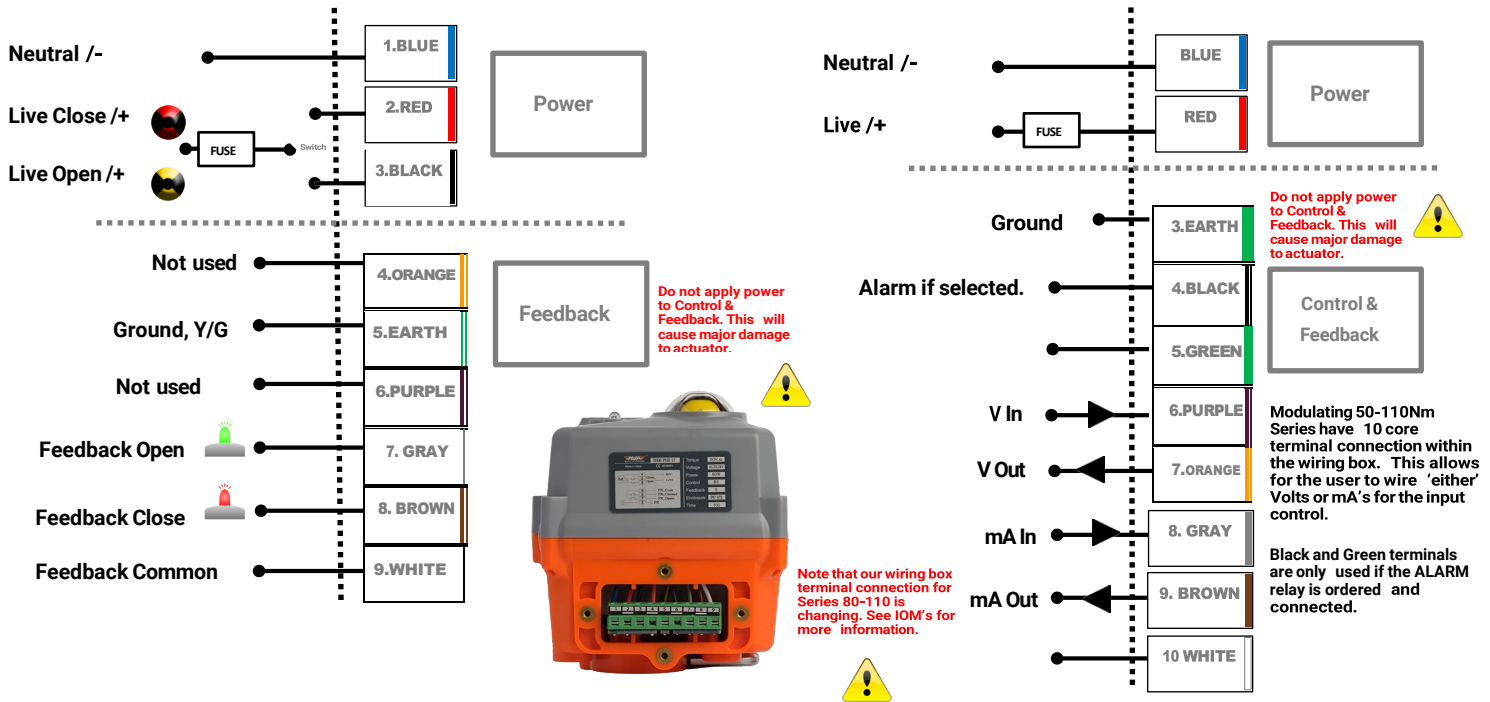
Rated Torque Nm (in.lbs):	450Nm Break (3540) / Run 400Nm (3982)	Alarm Relay:	Option for fault alarm output
ISO 5211:	F07/10 x 22mm Output Drive	LED Status Light:	RGB Open, Close, Alarm.
Voltage Range:	24VAC/DC, 95-265VAC,	Run Time no load:	25 seconds
Connecting Cable:	2 x M20 Conduit Wiring Box	3 Position Function:	Setup via Smart Menu firmware
Working Angle Range:	0-270 degrees. Set via digital encoder. Working angle can be digitally set via Smart Menu firmware.		
Duty Cycle:	75% rated - 100% rated for Modulating	Brushless Motor:	DC brushless motor
Sound Power Level:	Max50dB(A)	Modulating Control:	Preset at factory where applicable.
Position Indicator:	Mechanical connected to digital encoder sensor for accurate position sensing.		
Local Control:	Via Smart Menu using touch buttons	Reverse Acting:	Set via Smart Menu
Speed Control:	PWM or PULSE speed control via Smart Menu	Fail to 3rd Position:	Set via Smart Menu

MT SERIES 400 - POWER & WIRING



Standard On Off, Failsafe and Hi-Speed Open/Close Wiring: Additional wiring options available online.

Standard Modulating including Failsafe and Hi-Speed Wiring: Additional wiring options available online.



Important, we have changed our wiring box in Q4 2022 to a separate the power and feedback as shown to the left hand side compared to the current style as shown in the image of the actuator above. This will help prevent users accidentally applying power to the feedback terminals. See IOMs document for more information.

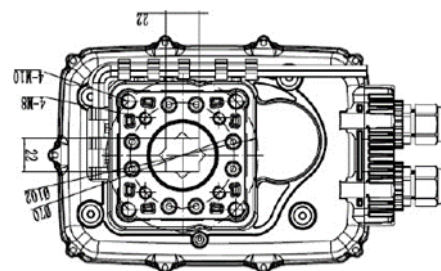
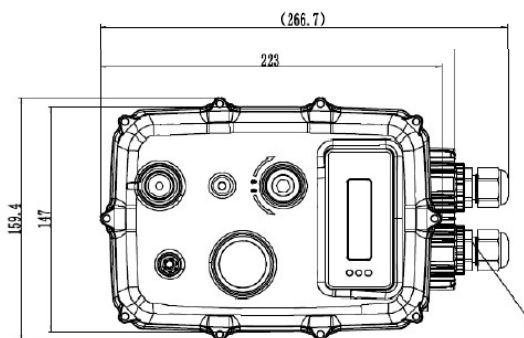
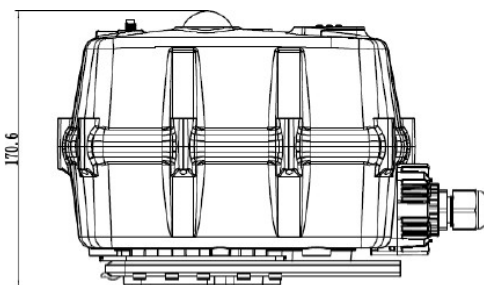
Power Ratings for most common series: including run torque and peak current for sizing power supply

P/N (Basic/Smart)	Voltage	Power	Time	Fuse	Peak	P/N (Smart)	Voltage	Power	Time	Fuse	Peak
MTB400-5-22	95-265VAC	150W	25s	15A	9.3A	MTS-40025-6-22	24VAC/DC	150W	25s	15A	9.3A
MTB-400-6-22	24VAC/DC	150W	25s	15A	9.3A	MTS-40026-5-22	95-265VAC	150W	25s	15A	9.3A
MTB-414-5-22	95-265VAC	180W	25s	15A	9.3A	MTS-40026-6-22	24VAC/DC	180W	25s	15A	9.3A
MTB-414-6-22	24VAC/DC	180W	25s	15A	9.3A	MTS-40031-5-22	95-265VAC	180W	25s	15A	9.3A
MTS-40010-5-22	95-265VAC	150W	25s	15A	9.3A	MTS-40031-6-22	24VAC/DC	150W	25s	15A	9.3A
MTS-40010-6-22	24VAC/DC	150W	25s	15A	9.3A	MTS-40034-5-22	95-265VAC	150W	25s	15A	9.3A
MTS-40014-5-22	95-265VAC	180W	25s	15A	9.3A	MTS-40034-6-22	24VAC/DC	180W	25s	15A	9.3A
MTS-40014-6-22	24VAC/DC	180W	25s	15A	9.3A	MTS-40035-5-22	95-265VAC	180W	25s	15A	9.3A
MTS-40025-5-22	95-265VAC	150W	25s	15A	9.3A	MTS-40035-6-22	24VAC/DC	150W	25s	15A	9.3A

Function: Basic (MTB) / Smart (MTS)

On / Off = 400/40010	Modulating = 40025	Modulating & Failsafe = 40026	On / Off Modbus = 40031	Modulating Modbus = 40035
Failsafe = 414/40014	Failsafe Modbus = 40034			

MT SERIES 200/400 - MATERIALS & DIMENSIONS



MT SERIES INSTALLATION & OPERATION



The following guide covers what to do when you receive your actuator, recommendations on how to install your actuator and simple checks if for any reason the actuator isn't working as it should. If you would like to discuss any of the points detailed here, you can contact our technical team at any time.

Important information on receiving your Actuator:

- All our actuators are shipped within custom made packages including foam insert to hold the actuator in place during shipping.
- On opening the box, check that your actuator is free of any visible damage. If you can see any damage, contact Fluidflo.
- Our MT Series 10, 20 and 50 as standard are supplied with a 0.8m prewired cable. This will likely have been crimped ready to terminate.
- Our MT Series 80, 110, 200 and 400 will be supplied with a rear mounted 'Wiring Box'. Remove this to install your own cable.
- Should you receive your MT Series 10, 20 or 50 actuators with a white test plug, this can be removed without invalidating warranty.
- Do not remove the cover, there is no need at any stage to remove the cover. Your actuator is maintenance free.
- For MT Series 10, 20, 50, 80 and 110 Manual Override use, ensure power is removed. Series 200-400 has declutch push button in cover.
- Before applying power for initial power up, please double check you're applying the correct voltage to the actuator delivered.
- If buying a loose actuator, please recycle where possible all packaging to protect the environment.

Installation recommendations:

- You can install your actuator horizontally or vertically.
- **Do not** install your actuator upside down / underslung.
- Your actuator is IP67 rated and doesn't need a cover to be installed externally.
- **Do not** jet wash your actuator, the actuator is not suitable for jetting.
- If installing a failsafe actuator, we recommend you charge before use.
- **Do not** remove power for Failsafe actuator before minimum 30 second charge.
- **Do not** apply voltage to the control and output terminals, this will damage the actuator and void warranty.
- Always check wiring and voltage before applying power to the actuator.
- **Do not** apply 110-220VAC to 12V, 24VAC or 24VDC actuators, this will damage the actuator and void warranty.

MT SERIES INSTALLATION & OPERATION



Things to consider when sizing our Actuator for your valve:

NOTE: Safety factors shown below should only be considered if the manufacturer has not already included them in the torque data provided in their product datasheets.

- If your application is wet, consider a 25-30% safety factory.
- If your application is dry, such as gas or air, consider a 50% safety factor.
- A butterfly valve has very little torque during open/closing. It has higher torque when seating/unseating therefore size the actuator on the valve manufacturers break open/closing torque values.
- If using a Multi Turn actuator, ensure the valve is '**non rising stem**' design and consider the maximum turns available.
- Most ball valves have a consistent torque throughout open/closing, When considering the safety factor, the operating torque of the ball valve can be used.

ISO 5211: International standard for mounting valves and actuators together:

Actuator	10	20	50	80-110	200-400
Mounting	F03/F05	F03/F04/F05	F05/F07	F05/F07	F07/F10
Output Drive	11mm	14mm	14mm	17mm	22mm
Bolt Size	M3/M5	M3/M5/M6	M6/M8	M6/M8	M8/M10
Reducer	9x11mm	9x14mm	11x14mm	14x17mm	17x22mm

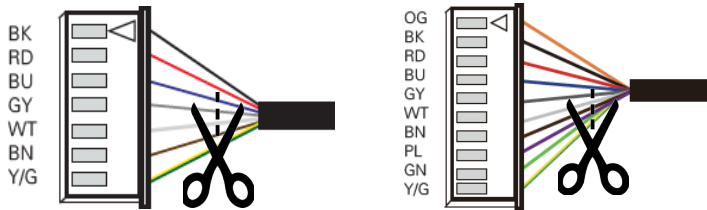


MT SERIES INSTALLATION & OPERATION



Cable Sizing including wire gauge:

Actuator	10	20	50	80-110	200-400
Diameter	5.5mm	5.5mm	7.5mm	8mm	8mm
Core Diameter	1.3mm	1.3mm	2mm	2mm	2mm
Wire Gauge	16 Gauge	16 Gauge	12 Gauge	12 Gauge	12 Gauge



The above is our standard test plug. If you receive with the plug connected, you can cut the plug off and terminate your cable. This will not invalidate your warranty or damage the actuator.

Note: Pre-wired actuators can be supplied with crimped cables or Weipu connectors ready to install.



General Power Rating: each line shows Run/Peak power rating. Peak is max rating before actuator goes into alarm

Actuator	10		20		50		80		110		200		400	
24V on/off	12W	100W	15W	1A	25W	2.5A	60W	3A	100W	3A	120W	7.5A	150W	9.3A
95-265V on/off	12W	100W	15W	1A	25W	2.5A	60W	3A	100W	3A	120W	7.5A	150W	9.3A
24V Failsafe	20W	100W	36W	1A	40W	2.5A	60W	3A	100W	6A	120W	7.5A	180W	9.3A
95-265V Failsafe	20W	100W	36W	1A	40W	2.5A	60W	3A	100W	6A	120W	7.5A	180W	9.3A
24V Hi Speed	50W	100W	85W	1A	40W	2.5A	60W	3A						
95-265V Hi Speed	50W	100W	85W	1A	40W	2.5A	60W	3A						
24V Modulating	12W	100W	15W	1A	25W	2.5A	60W	3A	100W	3A	120W	7.5A	150W	9.3A
95-265V Modulating	12W	100W	15W	1A	25W	2.5A	60W	3A	100W	3A	120W	7.5A	150W	9.3A

Quality Control



TUV Certified

Maxtorque Quality products approved by the biggest names, from TUV for CE, UL and CSA, to REACH and RoHS, we have everything for total peace of mind. Not to forget our ISO 9001:2015 process control.

Quality at Our Core

Naturally, quality control is very important, we know that our actuators are often used in highly critical applications where our customers depend on our products working as specified.

Through factory ISO 9001:2015 accreditation, All MT Series actuators are checked at all stages before sale including tight quality control on manufacturing, including serial and batch number traceability.

In addition, just completed is the very latest in CE testing via TUV in which Maxtorque actuators were extensively tested to the very latest standards. EMC testing was also completed as part of this process.

Other testing completed includes internal life cycle testing, 3rd party life cycle testing, vibration testing, IP67 submersion testing and salt spraying for corrosive applications.





Modbus RS485 Communications

Maxtorque offer several special solutions with our actuators including Modbus functionality, Timer series and Wireless, the range of options expands often catering to customer demands.

Modbus, Multi Turn & More

Modbus RS485 and CANBUS are two of our standard options. We can also offer Modbus RTU as a special configuration and are developing Profibus protocol also.

Timer Function is another unique offering from Maxtorque, this allows the user to set a 7 day schedule of operations via the on-board Firmware without the need for a PLC or similar system. The actuator will open and close as per your schedule and can also operated on time delay function. All the user needs are to add power! Contact our team today for more information.

1 Million Operations

Various customers have tested our actuators to over 1 million operations as part of life cycle testing and product evaluation. Other customers have tested to 100,000 operations to validate the quality of the actuators design and build. With 1000s of actuators sold each year, all over the world, and some of the biggest names in the industry choosing Maxtorque as their electric actuator,

