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Aster

CE

Installation Manual

INTRODUCTION

The **Aster** motor is an electromechanical operator which is suitable for the automation of metal and wooden swing gates. The motors can be mounted in two ways to obtain an inward or outward opening. Three systems are available,

- **Aster 300/2 -** Suitable for double wing gate with a maximum span of 5.0m total.
- **Aster 400/1** - Suitable for single wing gate with a maximum span of 4.0m total.
- **Aster 400/2** - Suitable for double wing gate with a maximum span of 7.0m total.

Please identify which system you have purchased and read the instructions before continuing with the installation.

INSTALLATION REQUIREMENTS

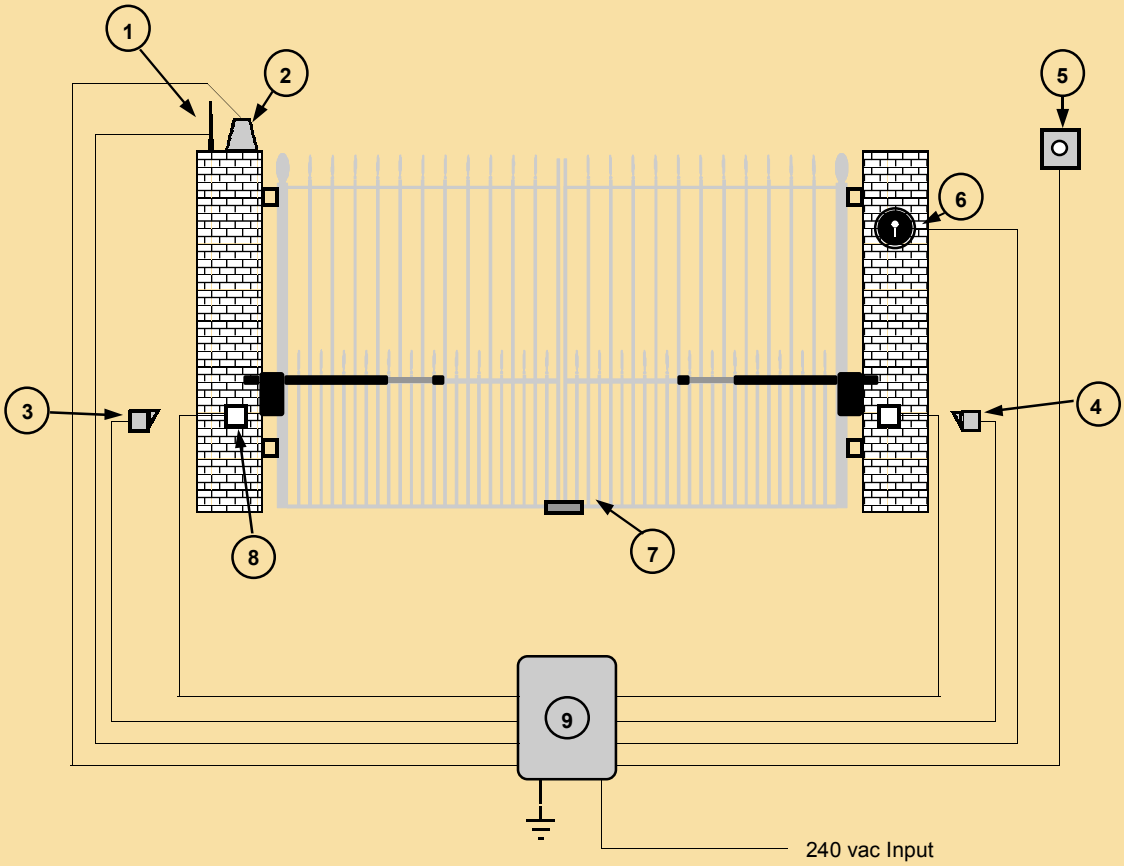
PLEASE READ THE FOLLOWING INFORMATION CAREFULLY AND ENSURE THAT ALL REQUIREMENTS ARE OBTAINALBE BEFORE INSTALLATION.

- Gates must not exceed the maximum length as stated in Introduction.
- All **Aster** motors require certain measurements for fitting brackets (*Fig. 3)*. These must be followed as incorrect geometry may result in the incorrect operation.
- Adequate side room is needed for each motor to operate.
- Physical stops are needed to cease the gates' operation. A centre stop is a compulsory requirement, fully open stops are recommended but not essential.
- Brackets that are supplied may not be suited to the measurement you require as all applications vary. Brackets may need fabricating/altering.
- A 240vac power supply is required to one side of the gate (where the control unit is to be housed) fused at 10amps - complete with an RCD protection device.
- If a hardwired intercom system or other controls from the house are to be installed, a communications cable will be needed from the house to control unit.
- A duct between the posts is required to carry cables to second motor and to connect safety photocells.
- The services of a qualified electrician will be required to carry out electrical connections and power supplies/ communication cable routing.

TECHNICAL DETAILS

	ASTER 300	ASTER 400
Power Supply	230vac - 50/60Hz	230vac - 50/60Hz
Current absorption	1.1A	1.1A
Capacitor	8MF	8MF
Thermal protection cut-in	120°	120°
Operations per hour	60	60
Pull/thrust force	400kg	400kg
Electric motor speed	900 R.P.M	900 R.P.M
Operator rod speed	11mm/sec	11mm/sec
Operator rod stroke	310mm	405mm
Maximum rod stroke time	29sec	37sec
Maximum gate length	3000mm	4000mm
Maximum gate weight	400kg	400kg

ASTER 300 & 400/2– *Install diagram for standard system* *Fig. 1*



1 - Aerial - Pre wired. Gives added range to your remote transmitter (approx. 40m). Recommended fitting location is a high point with a clear line of sight. Usually at the top of you post.

2 - Warning light (optional) - 3 x 1.5mm wire. Emits a flashing light to warn others that an automatic gate is in operation. Recommended fitting location is a high point with a clear line of sight. Usually at the top of post.

3 - Safety photocell (receiving) - 4 x 0.5mm wire & **4** - Safety photocell (emitting) - 2 x 0.5mm wire. Photocells are primarily used as a safety feature but can also be used for automatic entry/exit. We recommend that the photocells are always installed to give maximum safety to vehicles and pedestrians. Photocells pass an infra-red beam between themselves. When the gates are closing, and the beam is broken (by a vehicle or pedestrian) the gates will instantly stop and re-open. Recommended fitting location is between your gate pillars on the outside (opposite to the movement of the gate, therefore the gate will not break their beam during the cycle) at a height of approximately 500mm from floor level.

5 - Internal push button station/access facility (optional) - 2 x 0.5mm wire. Creates a normally open switch to release the gate from inside the property or at the gate.

6 - Key switch - 2 x 0.5mm wire. Used to access the gates with a conventional key. Recommended fitting location is on the gate pillar, inside or out, depending on the required function.

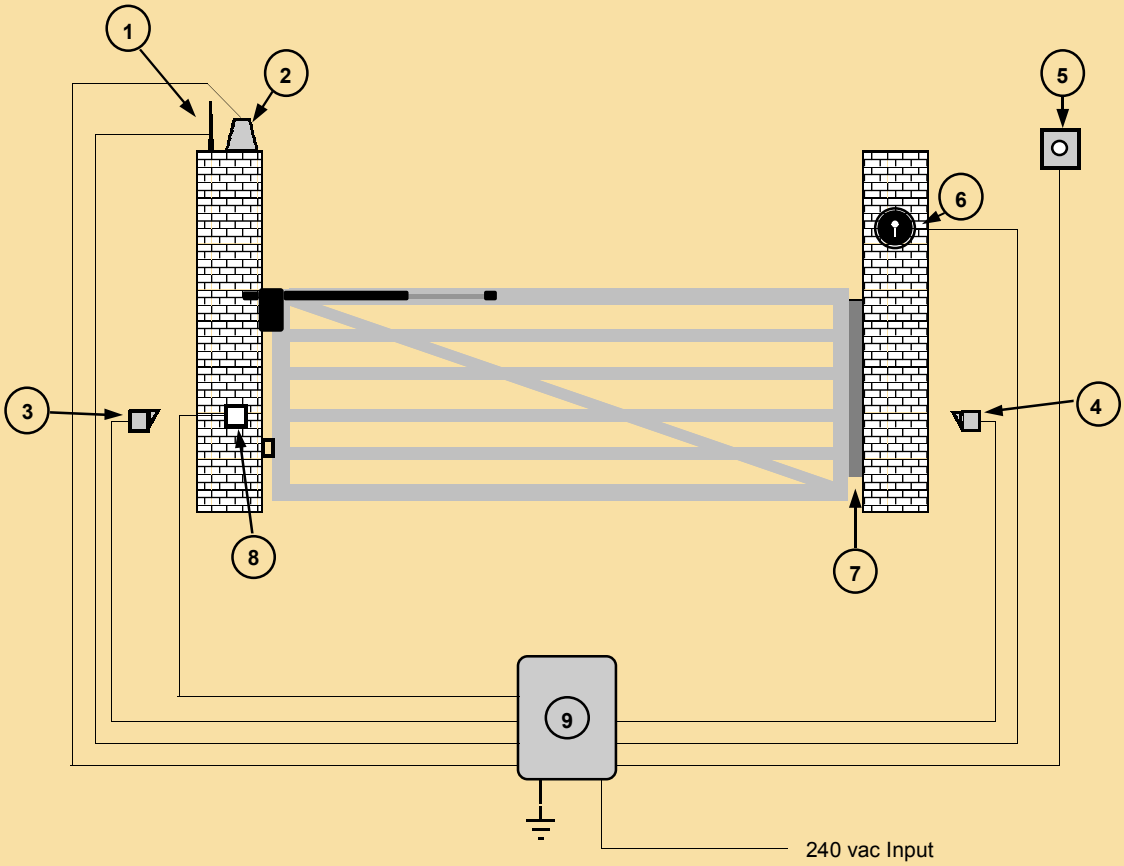
7 - Centre stop . This is essential to the overall operation of the gates and, if not existing, can be purchased from your supplier if required. Alternatively any suitable centre stop can be used.

8 - Junction boxes for motors - 4 x 1.5mm wire. Used to junction motor cable before routing back to PM8000 control unit.

9 - PM8000 control unit. Central control unit where all connections are made. Please refer to separate instruction manual for wiring diagrams and operational functions. Recommended fitting location is local to gates behind gate post or fixed to the back of adjacent wall.

Please note, *all fitting locations are recommendations only.*

ASTER 400/1– *Install diagram for standard system* *Fig. 2*



1 - Aerial - Pre wired. Gives added range to your remote transmitter (approx. 40m). Recommended fitting location is a high point with a clear line of sight. Usually at the top of you post.

2 - Warning light (optional) - 3 x 1.5mm wire. Emits a flashing light to warn others that an automatic gate is in operation. Recommended fitting location is a high point with a clear line of sight. Usually at the top of post.

3 - Safety photocell (receiving) - 4 x 0.5mm wire & **4** - Safety photocell (emitting) - 2 x 0.5mm wire. Photocells are primarily used as a safety feature but can also be used for automatic entry/exit. We recommend that the photocells are always installed to give maximum safety to vehicles and pedestrians. Photocells pass an infra-red beam between themselves. When the gate is closing, and the beam is broken (by a vehicle or pedestrian) the gate will instantly stop and re-open. Recommended fitting location is between your gate pillars on the outside (opposite to the movement of the gate, therefore the gate will not break their beam during the cycle) at a height of approximately 500mm from floor level.

5 - Internal push button station/access facility (optional) - 2 x 0.5mm wire. Creates a normally open switch to release the gate from inside the property or at the gate.

6 - Key switch - 2 x 0.5mm wire. Used to access the gate with a conventional key. Recommended fitting location is on the gate pillar, inside or out, depending on the required function.

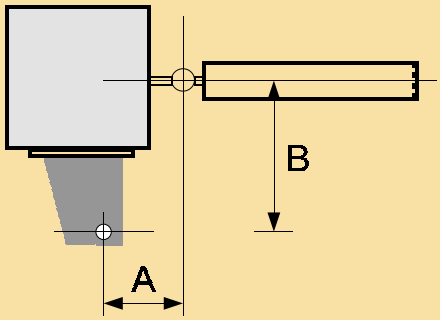
7 - Physical stop. This is essential to the overall operation of the gate and, if not existing, can be purchased from your supplier if required. Alternatively any suitable centre stop can be used. With single gate a stop can be fixed to the close post or in the ground.

8 - Junction box for motor - 4 x 1.5mm wire. Used to junction motor cable before routing back to PM5000 control unit.

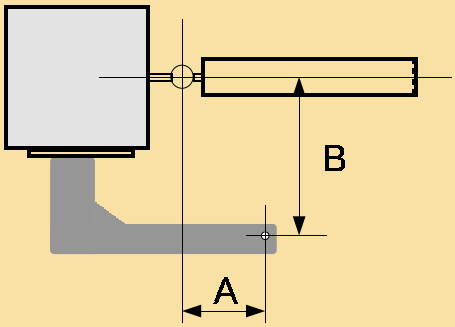
9 - PM5000 control unit. Central control unit where all connections are made. Please refer to separate instruction manual for wiring diagrams and operational functions. Recommended fitting location is local to gate behind gate post or fixed to the back of adjacent wall.

ASTER FITTING *Fig. 3*

Gate opening inwards (towards property)



Gate opening outwards (against property)

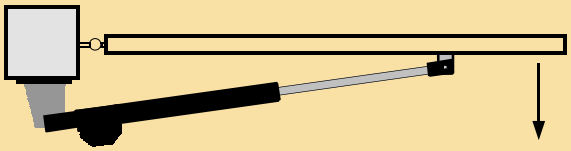


Aster - *All measurements in mm.*

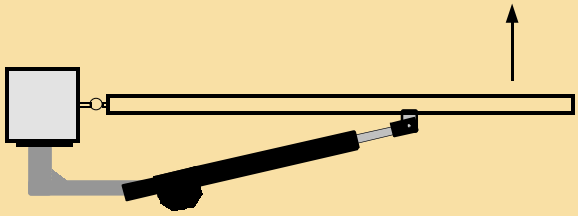
ASTER 300	A	B
90º Opening	145	145
120º Opening	160	120

ASTER 400	A	B
90º Opening	195	195
120º Opening	210	170

ASTER FITTING *Fig. 4*



Gate opening inwards (towards property)
When Aster is fitted, the arm should be near to full extension (see installation instructions). When opening the arm retracts and pulls the gate open (direction of arrow). When closing the arm extends and pushes the gate to the closed position.



Gate opening outwards (against property)
When Aster is fitted, the arm should be near to full retraction (see installation instructions). When opening the arm extends and pushes the gate open (direction of arrow). When closing the arm retracts and pulls the gate to the closed position.

ASTER INSTALLATION - *Installation recommendations*

Aster 300/2 & 400/2 system.
Aster 400/1 system.

Motors should be fitted as near to middle of the gate as possible. Preferably on a mid rail. If applying to a metal gate, fix motors to mid rail/mid point. If applying to a 5-bar type gate, fix motor to top bar. For single gates exceeding 3.0m we recommend the use of an electric lock. This secures the gate and eliminates unnecessary damage to the drive.

For metal gates/posts, we recommend welding brackets in position.
For wooden gates/posts, we recommend that the brackets are welded to plates to distribute the pressure evenly and through bolts are used with plates at the opposing side. This will help to prevent the brackets pulling into the wood during operation.

ASTER INSTALLATION - *Aster 300 & 400 opening inwards*

- Check that you have all listed components.
- Check **Installation requirements** on page 1 and ensure that the application satisfies all points.
- Before commencing, ensure gate is in closed position against centre stop.
- Calculate the correct location/size of bracket **A** using *Fig. 1 (or) 2 & 3* and fix to gate post using suitable fixings. If fixing to a metal post it is always recommended to weld the bracket to the post.
- Attach the back junction of the motor to bracket **A** using one of the pins and holding screws supplied. These should be tightened using a 6.0mm allen key or alternatively the manual release key can be used.
- Take the manual release key and insert it into the motor release keyhole located at the top of the motor. Turn fully clockwise to release the motor (this is also the procedure during a power cut or emergency situation).
- Extend the arm to it's full length. Push back approx. 50mm.
- Hold the arm up to gate. Fix bracket **B** to the gate at the point where the arm ends, ensuring that the hole of bracket matches the hole at end of arm.
- Secure arm to bracket using one of the pins and holding screws supplied.
- Reverse the manual release procedure to re-engage the motor (you may need to release the motor again during the installation).
- Connect the motor wires to your control unit (these may need to be junctioned in adaptable boxes). Please refer to your control unit instruction (PM8000 or PM5000) for all wiring directions/instruction.

  Motor cable, **Blue =** common, **Brown & Black =** direction (open & close), **YellowGreen =** earth.

If your system has two motors **Aster 300/2** & **400/2**, please repeat the same installation procedure for the second motor/gate.

ASTER INSTALLATION - *Aster 300 & 400 opening outwards*

- Check that you have all listed components.
- Check **Installation requirements** on page 1 and ensure that the application satisfies all points.
- Before commencing, ensure gate is in 90° open position, against stop if installed.
- Calculate the correct location/alteration of bracket **A** using *Fig. 1 (or) 2 & 3* and fix to gate post using suitable fixings. If fixing to a metal post it is always recommended to weld the bracket to the post.
- Attach the back junction of the motor to bracket **A** using one of the pins and holding screws supplied. These should be tightened using a 6.0mm allen key or alternatively the manual release key can be used.
- Take the manual release key and insert it into the motor release keyhole located at the top of the motor. Turn fully clockwise to release the motor (this is also the procedure during a power cut or emergency situation).
- Extend the arm to it's full length. Push back approx. 50mm.
- Hold the arm up to gate and mark the point where bracket **B** is to be fixed, ensuring that when the bracket is fixed, the hole of the bracket matches the hole of the arm.
- Close gate against centre stop.
- Retract arm until the end of the arm matches the bracket mark point. This point should be easily reached by the motor and the motor should not be retracted fully. This action will simulate the motor's movement in operation and should be checked before fixing the bracket to ensure the gate will open and close fully. If the arm does retract fully and the point isn't yet reached, the geometry of bracket **A** will need alteration.
- Once bracket location is confirmed, fix bracket **B** to the gate at the point where the arm ends, ensuring that the hole of bracket matches the hole at end of arm.
- Secure arm to bracket using one of the pins and holding screws supplied.
- Reverse the manual release procedure to re-engage the motor (you may need to release the motor again during the installation).
- Connect the motor wires to your control unit (these may need to be junctioned in adaptable boxes). Please refer to your control unit instruction (PM8000 or PM5000) for all wiring directions/instruction.

  Motor cable, **Blue =** common, **Brown & Black =** direction (open & close), **YellowGreen =** earth.

If your system has two motors **Aster 300/2** & **400/2**, please repeat the same installation procedure for the second motor/gate.

ASTER INSTALLATION - *Electrical connection*

WE ONLY SUGGEST CARRYING OUT ELECTRICAL CONNECTION USING THE SERVICES OF A QUALIFIED ELECTRICIAN.

For full wiring instruction of motor and accessories, please refer to the PM8000/PM5000 control unit manual.

ASTER INSTALLATION - *System test*

Upon completion of mechanical installation and electrical connection we recommend that the system is tested. Please follow the test procedure below,

- Switch power off.
- Manually release both motors.
- Open both gates to a 45° angle.
- Re-engage motors (reverse manual release procedure).
- Apply power.
- Give signal from access unit i.e. transmitter, key switch.

At the initial signal the motors should always move in the opening direction, if this is not the case for one or both of the motors, the directional wires (brown & black) of each motor must be reversed.

- Run motors for a number of operations to evaluate whether any operational timer adjustments are needed. These timers are found in control unit and include, **run timer** (amount of time motors are running for), **delay timer** (allowing a delay between first and second motor-PM8000 only), **pause timer** (amount of time motors remain open before closing), **torque regulator** (regulates power supplied to motors). All timer adjustments are detailed in control unit instruction.

Please note, system is set up for automatic closure. If this is not required, please refer to control unit instruction to alter the system operation.

CAUTION! Motors may become hot during prolonged operation.

ASTER MAINTENENCE

Aster motor is generally maintenance free.
On completion of installation it is recommended to lubricate all pivot points and the motor piston with industrial grease to ensure friction-free movement.

ADDITIONAL ACCESSORIES - *Security, safety, access control*

WDS supply a range of additional extras that can enhance your system. These include additional,

- Security and visitor identification.
- Safety equipment.
- Advanced access control equipment.

All products and full descriptions can be found on page 9 of **WDS** company brochure.

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