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MOTION DESIGN

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Lifting Column

Item No .291

User Manual



Safety Information



WARNING!

Read the safety precautions in this section before installing, powering, operating or servicing this product.

The following symbols are used to identify important safety information on the product and in this manual:



DANGER!
Safety hazard.
Risk of severe injury or death.



DANGER!
Hazardous voltage.
Risk of lethal or severe electric shock.



WARNING!
Fire hazard.



WARNING! Refer to user manual.



This product is for professional use only. It is not for household use.

This product presents risks for severe injury or death due to fire hazards, electric shock, and falls.



Read this manual before installing, powering or servicing the lifting column; follow the safety precautions listed below and observe all warnings in this manual and printed on the lifting column. If you have questions about how to operate the lifting column safely, please contact your Wahlberg Motion Design supplier or Wahlberg Motion Design.



PROTECTION FROM ELECTRIC SHOCK

- Disconnect the lifting column from AC power before removing or installing any cover or part and not when in use.
- Always ground (earth) the lifting column electrically.
- Use only a source of AC power that complies with local building and electrical codes and has both overload and ground-fault (earth-fault) protection.
- Before using the lifting column, check that all power distribution equipment and cables are in perfect condition and rated for the current requirements of all connected devices.
- Power input throughput cables must be rated 20 A minimum, have three conductors 1.5 mm² (AWG16) minimum conductor size and an outer cable diameter of 5-15 mm (0.2-0.6 inch). Cables must be hard usage type (SJT or equivalent) and heat-resistant to 90 °C (194 °F) minimum. In the EU the cables must be <HAR> approved or equivalent.
- Use only Neutrik powerCON TRUE1 NAC3FX-W cable connectors to connect to power input sockets. Use only Neutrik powerCON TRUE1 NAC3FX-W cable connectors to connect to power throughput sockets.
- Assembly power supply cables following the instructions in this manual only (see page 12).

- Isolate the lifting column from power immediately if the power plug or any seal, cover, cable, or other component is damaged, defective, deformed, wet, or showing signs of overheating. Do not reapply power until repairs have been completed
- Do not expose the lifting column to rain or moisture.
- Refer any service operation not described in this manual to a qualified technician.

PROTECTION FROM BURNS AND FIRE

- Do not operate the lifting column if the ambient temperature (T_a) exceeds 40° C (104° F).
- Do not modify the lifting column in any way not described in this manual.
- Install only genuine Wahlberg parts.

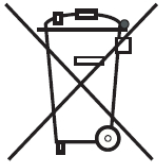
PROTECTION FROM INJURY

- Fasten the lifting column securely to a fixed surface, rig, or structure when in use. The lifting column is not portable when installed.
- Ensure that any supporting structure and/or hardware can hold at least 10 times the weight of all the devices they support
- If mounted on a rigging structure, fasten the lifting column using appropriate rigging clamps and M12 bolt, nut, and washers according to this manual, see page 10.
- Always install the lifting column as described in this manual. If the lifting column is installed in a location where it may cause injury or damage if it falls, install as described in page 10.
- If possible, allow enough clearance beneath the lifting column so it cannot cause any danger to personnel beneath it. Else, adjust the lower limit accordingly following the instructions in this manual.
- Check that all external cobbles and rigging hardware are securely fastened.
- Block access below the work area and from a stable platform whenever installing, servicing or moving the lifting column.
- Do not operate the lifting column with missing or damaged covers, shields, or shaft.

Before each use

- Ensure that the lifting column is correctly and safely mounted
- Ensure that the attached load is correctly mounted

Warning! Do not use the lifting column if any damage or error is found!



Disposing of this product

Wahlberg Motion Design products are supplied in compliance with Directive 2002/96/EC of the European Parliament and of the Council of the European Union on WEEE (Waste Electrical and Electronic Equipment), as amended by Directive 2003/108/EC, where applicable.

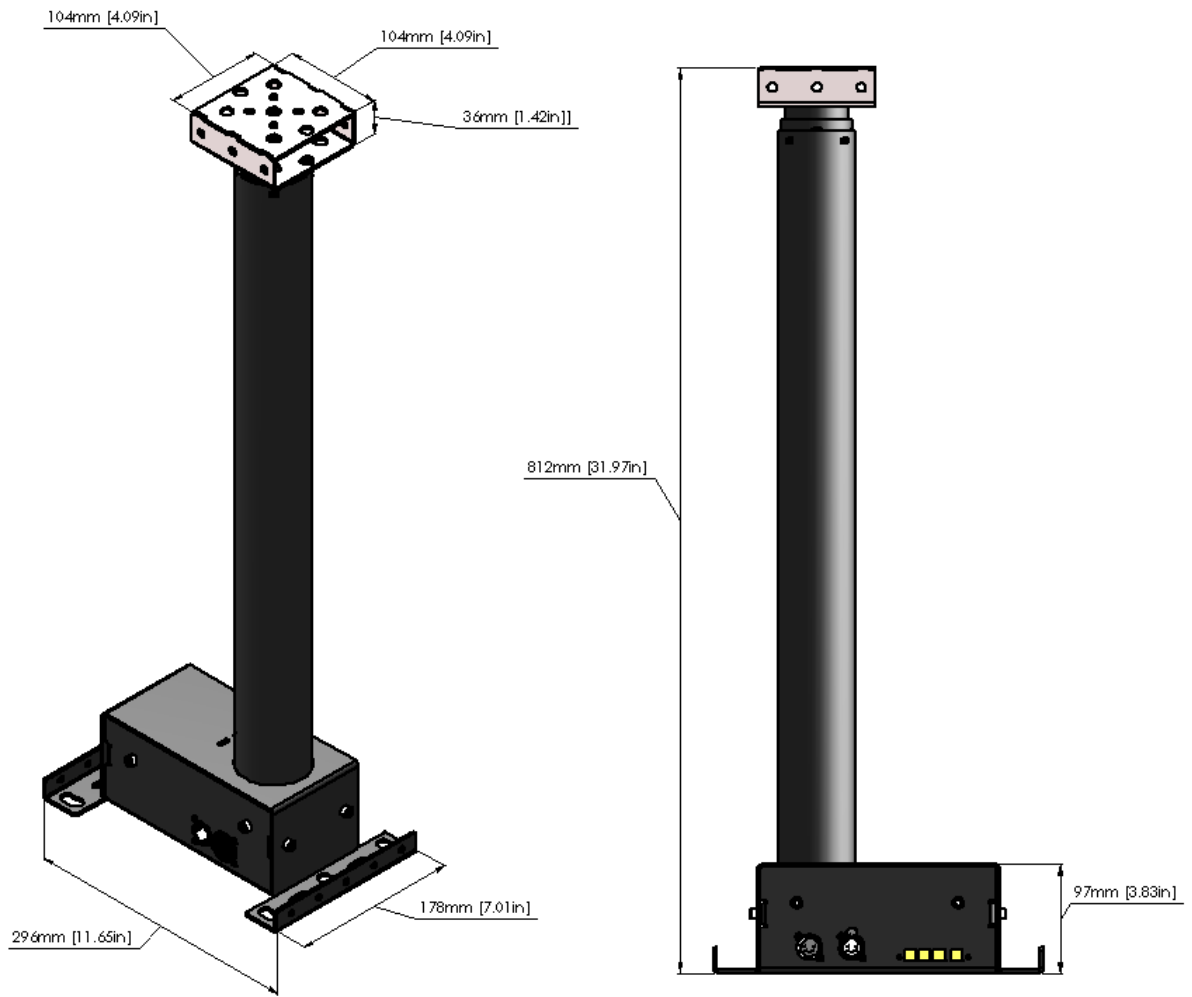
Help preserve the environment! Ensure that this product is recycled at the end of its life. Your supplier can give details of local arrangements for the disposal of Wahlberg Motion Design products.

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Technical specifications

Model:	Lifting column
Item no.:	.291
Dimensions (without mounting clamp):	298 × 180 × 806 mm. / 11.7 × 7.01 × 31.7 in. (L×W×H)
Power supply:	100-240 V AC 50-60 Hz.
Power consumption:	Max 150 Watt.
Power plug:	Neutrik powerCON TRUE1 NAC3FX-W
DMX control signal:	DMX 512 1990 + DMX512A / 3 channels used.
DMX connection:	5 pole XLR, In & link
Lifting speed:	0-55 mm/s (0-2.17 inch/s)
Lifting height:	97 cm (81-178 cm) (38.2 inches (31.9-70,1 inch))
Minimum load:	None
Maximum load:	
Control panel - down	60 kg. (132.3 lbs.)
Control panel – sideways	10 kg. (22.0 lbs.)
Control panel - up	Not recommended!
Duty cycle	
Load: 10 kg – speed 100 %	25 % (maximum 2 min. / 8 min.)
Load: 30 kg – speed 100 %	20 % (maximum 2 min. / 10 min.)
Load: 60 kg – speed 100 %	10 % (maximum 2 min. / 20 min.)
Load: 10 kg – speed 50 %	30 % (maximum 2 min. / 7 min.)
Load: 30 kg – speed 50 %	25 % (maximum 2 min. / 8 min.)
Load: 60 kg – speed 50 %	10 % (maximum 2 min. / 20 min.)
Noise emission:	55 dB (1 m distance)
Weight:	12 kg (26.5 lbs.)



Introduction

Before using the Wahlberg lifting column for the first time, please read this manual carefully. Failure in handling can cause injury of persons and/or damage the lifting column.

Package content

1x	Lifting column
1x	PowerCON TRUE1 NAC3FX-W Female plug for power cable
1x	User manual

Description

Lifting column is intended for stage use, mainly for use in theatres, shows, and concerts. It is designed for lifting and lowering stage props and other devices at maximum load of 60 kg when standing upright, and 10 kg when mounted sideways. The maximum lifting speed is ~55 mm/s.

The lifting columns are easily connected in a chain, allowing for advanced and creative ways of making dynamic movements. The lifting column is controlled by DMX from a lighting desk. It has a built-in positioning system which is utilized in locating the desired position. The positioning system is controlled from a 16 bit DMX channel and is highly accurate; the lifting column stops within 2 mm. The speed of the lifting column is likewise controlled from the lighting desk. Three DMX channels controls the wanted position and the speed of the movement, and the lifting column finds the position applied on the lighting desk. The movements are programmed as lighting and in interaction with the light

The control system ensures that the motor only is powered when:

- The control signal is reliable.
- The position and speed control is on.



Attention! The Lifting column should only be operated by an experienced lighting-desk-operator.

The lighting desk has to be programmed according to the manual, so the lifting column will stop when the speed is put to 0 %. It is also possible for the user to stop the lifting column on the main. After power failure the start position of the lifting column needs to be reset before the lifting column can function again.

Area of use

The Lifting column is intended for indoor use only. It is designed for lifting stage props, lamps and other devices at the weight and speed stated in "Technical Data". Any other use of the lifting column may result in a risk of injury of persons or equipment damage. Exceeding the load rating may cause failure of the equipment.

Use only approved rigging connectors to secure the load to the lifting column and do not modify the lifting column as this may damage the lifting column and result in a risk of injury of persons or equipment damage. For any modification of your lifting column, contact Wahlberg.

It is the customers' responsibility that any local restrictions concerning the use of the lifting column are complied with.



For indoor use only!

Caution! To reduce the risk of electric shock or injury: use indoors only

Caution! To reduce the risk of electric shock, do not expose to rain: store indoors!

Using for the first time



Important! The Lifting column must be protected from environmental factors such as physical shocks and vibration during transportation and storage.

Warning! Read "Safety Information" on page 2 before installing, powering, operating, or servicing the lifting column. Before applying power to the lifting column:

- Check the Wahlberg Motion Design website at www.wahlberg.dk for the most recent documentation and technical information about the Lifting column. Wahlberg user manual revisions are identified by the revision number in the bottom of each page.
- Carefully review the "Safety Instructions" on page 2.
- Check that the local AC mains power source is within the lifting column power voltage and frequency ranges.
- See "Power cables and power plug" on page 11. Install a Neutrik powerCON TRUE1 NAC3FX-W power input connector on a suitable power cable. If drawing the power from a mains power outlet, install a suitable power plug on the power cable.

Physical installation



Warning! The Lifting column must be either fastened to a flat surface such as a floor or roof, or clamped to a truss or similar structure. Do not apply power to the Lifting column if it is not securely fastened.

Warning! The supporting surface must be hard and flat. Fasten the lifting column securely.

Warning! Use only appropriate rigging clamps and M12 bolts. The clamp must be screwed into the mounting holes in the lifting column's mounting brackets using M12 washers and M12 locking-nuts.

Warning! Always mount the load with the center of mass directly below the center of the axis.

Fastening the lifting column to a flat surface

The Lifting column can be fastened to flat surface such as a floor or roof. Check that the surface can support at least 10 times the weight of all lifting columns and equipment to be installed on it.

Mounting the lifting column on a truss

The Lifting column can be clamped to a truss or similar rigging structure.

To clamp a Lifting column to a truss:

1. Check that the rigging clamp is undamaged and that the rigging structure can support at least 10 times the combined weight of all lifting columns and equipment to be installed on it.
2. Use appropriate rigging clamps or contact Wahlberg Motion Design for a rigging clamp.
3. Fasten the clamp to the lifting column with M12 bolts, nuts, and washers in the holes in the mounting brackets of the lifting column.
Block access under the work area. Working from a stable platform, hang the lifting column on the truss. Tighten the rigging clamp.

Mounting the lifting column in an angle

The Lifting column can be mounted in different ways.



Warning! The maximum load depends on the angle the lifting column is mounted in. Refer to table below

Maximum load:

Control panel - down	60 kg.	(176 lbs.)
Control panel - sideways (1-90°)	10 kg.	(22.0 lbs.)
Control panel - up	Not recommended!	

AC power



Warning! Read “Safety Information” on page 2 before connecting the Lifting column to AC mains power.

Warning! For protection from electric shock, the Lifting column must be grounded (earthed). The power distribution circuit must be equipped with a fuse or circuit breaker and ground-fault (earth-fault) protection.

Warning! Socket outlets or external power switches used to supply the Lifting column with power must be located near the lifting column and easily accessible so that the lifting column can easily be disconnected from power.

Power voltage





Warning! Check that the voltage range specified on the lifting column’s serial number label matches the local AC mains power voltage before applying power to the lifting column. Do not apply AC mains power to the lifting column at any other voltage than that specified on the lifting column’s serial number label.

Power cables and power plug

The Lifting column requires a power input cable with a Neutrik powerCON TRUE1 NAC3FX-W cable connector for AC mains power input. The cable must meet the requirements listed under “Protection from electric shock” on page 2.

If you install a power plug on the power cable, install a grounding-type (earthed) plug that is rated 16 A minimum. Follow the plug manufacturer’s instructions. Table 1 shows standard wire color-coding schemes and some possible pin identification schemes; if pins are not clearly identified, or if you have any doubts about proper installation, consult a qualified electrician.

Table 1 - Colour guide

Wire Colour	Conductor	Symbol	Screw (US)
Brown	Live	L	Yellow or brass
Blue	Neutral	N	Silver
Yellow/green	Ground (earth)	 or 	Green

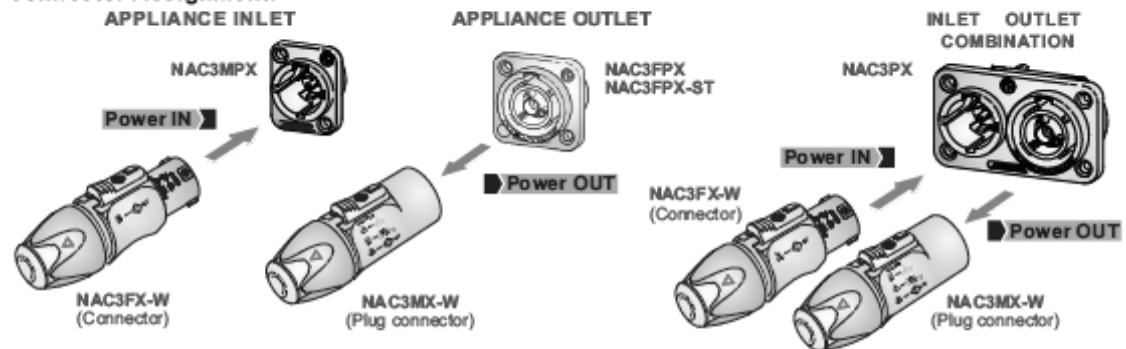
Installing a power input connector on a power cable

To install a Neutrik powerCON TRUE1 NAC3FX-W input connector on a power Cable, follow the original Neutrik instructions below:

A. OPERATING INSTRUCTION

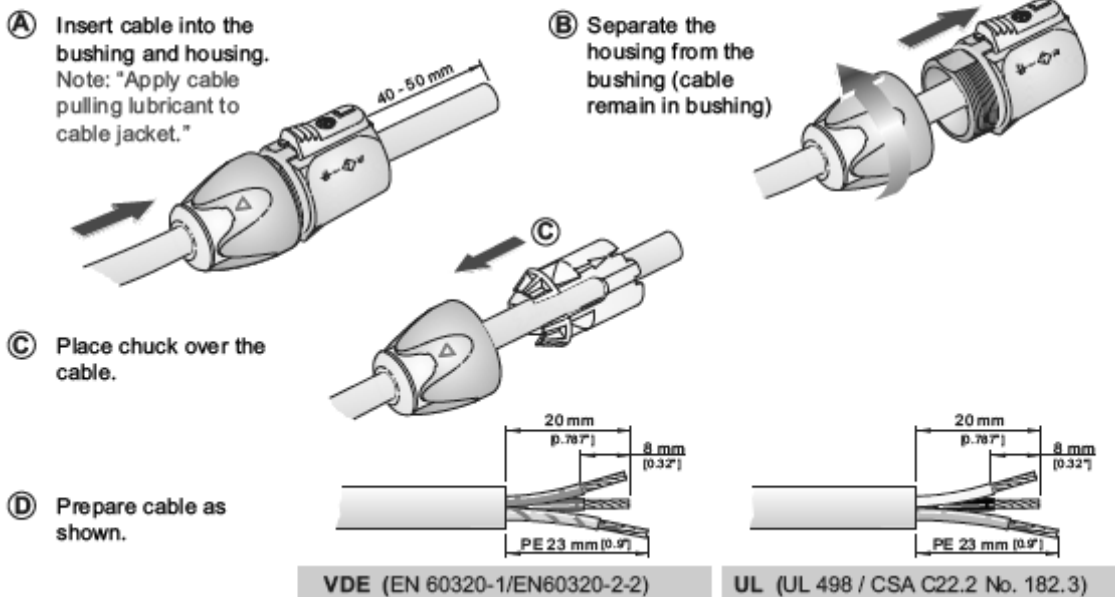
Application:
The powerCON TRUE1 system is certified as connector with breaking capacity according IEC 60320, VDE 0625. It is intended for use as appliance couplers and interconnection couplers. It serves to supply power to an appliance and from an appliance to another equipment. To be installed by qualified person only.

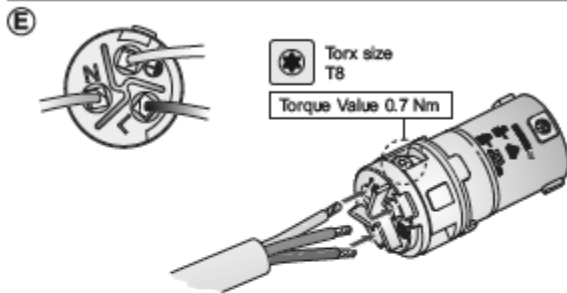
Connector Assignment:



Approval based:	VDE EN 60320-1/EN60320-2-2 <input checked="" type="checkbox"/>	UL UL 498 / CSA C22.2 No. 182.3 <input checked="" type="checkbox"/>
Rating:	250 V ac / 16 A	250 V ac / 20 A
Cable Type:	H05VV-F3G 1.0 mm ² , Length max. 2 m H05VV-F3G 1.5 - 2.5 mm ² H07RN-F3G 1.5 mm ²	SJTOW, SJOOW 3 x 12 AWG
Strain Relief:	White chuck	White chuck
Cable O.D.:	6.0 - 12.0 mm	6.0 - 12.0 mm

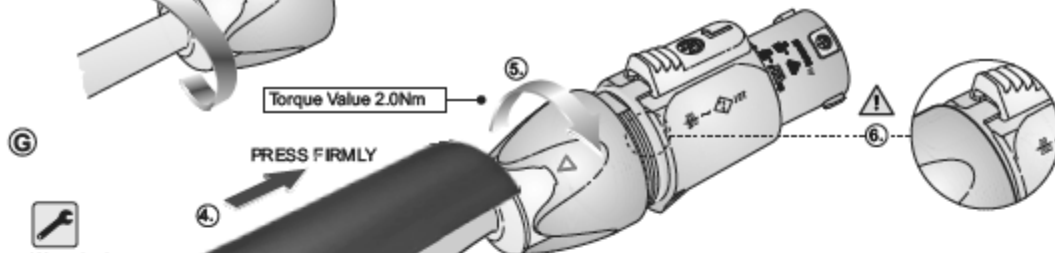
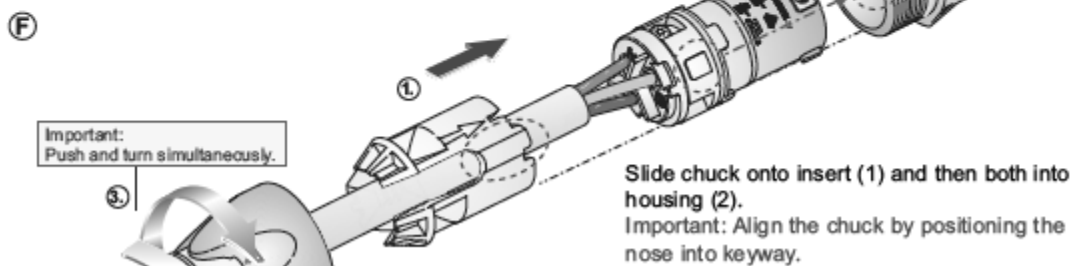
B. ASSEMBLY INSTRUCTION





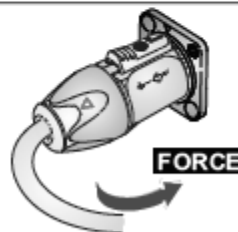
Slide the cable into the contacts and clamp with the screw with Torx size T8.

Wiring	VDE	UL
L ⇒	 brown	 black
N ⇒	 blue	 white
⊥ ⇒	 green/yellow	 green



FOR DISASSEMBLY - OPEN TWIST LOCK!

- ① Press with screw driver to unlock
- ② Turn bushing 360°.
- ③ Repeat step ①+② until bushing is unscrewed.



CAUTION

To ensure protection category, do not expose the connection to bending forces (e.g. do not attach loads to the cable, no free-dangling cable windings etc.).



SAFETY WARNING

For safety and certification reasons the connector must be replaced in case of any broken parts or serious damage.

Data link

A DMX 512 data link is required in order to control the lifting column via DMX. The Lifting column has 5-pin XLR connectors for DMX data input and output. The pin-out on all connectors is pin 1 = shield, pin 2 = (data -), and pin 3 = (data +). Pins 4 and 5 in the 5-pin XLR connectors are not used in the Lifting column, and there is no connection between the 5-pin XLR in and out connectors.

The Lifting column is subject to the common limit of 32 devices per daisy-chained link. Note that if independent control of a lifting column is required, it must have its own DMX channels. To add more lifting columns or groups of lifting columns when the above limit is reached, add a DMX-splitter and another daisy-chained link.

Tips for reliable data transmission

- Use shielded twisted-pair cable designed for RS-485 devices: standard microphone cable cannot transmit control data reliably over long runs. 24 AWG cable is suitable for runs up to 100 meters (328 ft.).
- Never use a lifting column's outputs to split a DMX link. To split the link into branches, use an opto-isolated RS-485 splitter/amplifier.
- Terminate the link by installing a termination plug in the output socket of the last lifting column. The termination plug, which is a male XLR plug with a 120 Ohm, 0.25 Watt resistor soldered between pins 2 and 3, "soaks up" the control signal, so it does not reflect and cause interference. If a splitter is used, terminate each branch of the link.

Connecting the data link

To connect the Lifting column to data:

1. Connect the DMX data output from the DMX controller to the Lifting column's male 5-pin XLR DMX input connector (DMX 512 IN).
2. Connect the DMX output of the lifting column to the DMX input of the next lifting column and continue connecting lifting columns output to input (DMX 512 OUT).
3. Terminate the last lifting column on the link with a 120 Ohm resistor.

The DMX lamp is the green led, next to the DMX-selectors.

- Glows constant, when the DMX connection is correct.
- Flash if the DMX signal is missing or wrongly connected.



Setup



Warning! Read “Safety Information” on page 2 before installing, powering, operating, or servicing the Lifting column.

Warning! Only experienced DMX users should operate the lifting column. Contact Wahlberg for further information and education on DMX protocol.

MODE setting

The MODE setting allows you to operate the lifting column in different ways. Each MODE setting has a given function. Each mode gives an opportunity for different run settings of the lifting column. The MODE is selected using the MODE selector on the lifting column.



The lifting column needs to be reset, before the positioning MODE is possible. The lifting column can be reset manually or automatically. The lifting column must be reset each time its power supply has been disconnected.



Warning! Only operate the lifting column when there is a clear view to the lifting column and area beneath/above or besides it, depending on the method used for mounting.

Warning! Before running the lifting column, ensure that the ‘danger zone’ next to the lifting column is cleared so no people can be harmed.

Table 2 - Overview of MODE functions

MODE	Function	Note
0	Neutral function – motor stops	
1	Slow speed change (Ramp) with auto reset	
2	Normal speed change (Ramp) with auto reset	
3	Fast speed change (Ramp) with auto reset	
4,5,6,7	Stops the motor unless specified otherwise	
8	Manual mode	For service and installation only!
9	Stops the motor unless specified otherwise	

MODE 0 – Neutral position

The lifting column is in neutral position. The motor is not powered and the lifting column does not move.

MODE 1 – Slow Speed Change (Ramp) with auto reset

Positioning mode with slow ramp

After power cycle, the lifting column automatically resets when the speed is > 0 (DMX channel 3)

The position of the lifting column can then be controlled by DMX channel 1,2, and 3

MODE 2 – Normal Speed Change (Ramp) with auto reset

Positioning mode with medium ramp

After power cycle, the lifting column automatically resets when the speed is > 0 (DMX channel 3)

The position of the lifting column can then be controlled by DMX channel 1,2, and 3

MODE 3 – Fast Speed Change (Ramp) with auto reset

Positioning mode with fast ramp

After power cycle, the lifting column automatically resets when the speed is > 0 (DMX channel 3)

The position of the lifting column can then be controlled by DMX channel 1,2, and 3

MODE 4,5,6,7 – Not in use

The motor is not powered and the lifting column does not move.

MODE 8 – Manual mode

For installation and service only!

DMX channel 1 determines the direction of movement of the lifting column

0-24% The lifting column moves down

25-74% The motor stops

75-100% The lifting column moves up

The movement starts when DMX channel 3 > 0 (speed). The lifting column moves with a constant predefined speed.

MODE 9 – Not in use

The motor is not powered and the lifting column does not move.

DMX ADDRESS setting

The DMX address, also known as the start channel, is the first channel used to receive instructions from the controller. For independent control, each lifting column must be assigned its own control channels.

The DMX address is configured using the three DMX ADDRESS selectors on the lifting column. The selected DMX address states from which channels, on the lighting desk, the lifting column is controlled. The DMX address can be selected from 1 – 507. The Lifting column uses three DMX channels.



DMX channel 1 – Position rough (16 bit DMX channel):

This channel controls the position of the lifting column, with the speed (DMX channel 3). This rough position works together with the fine position (DMX channel 2). The rough position and the fine position are multiplied in to a 16 bit channel. The rough position is the *MSB*.

DMX channel 2 – Position fine (16 bit DMX channel):

This channel controls the position of the lifting column, with the speed set on DMX channel 3. This fine position works together with the rough position (DMX channel 1). The fine position and the rough position are multiplied in to a 16 bit channel. The fine position is the *LSB*.

DMX channel 3 – Speed:

This channel controls the speed of the lifting column.

This channel defines the maximum speed. The lifting column runs with the set max speed, but slows down as closing in on the set position. This channel also works as a main brake; the motor does not run unless the channel is set above 0%. The speed-channel can also be used to make soft and slow movements or fast and sudden movements.

Table 3 - Overview of DMX addresses

DMX Channel	Function	Note
1	Position rough (Hi of a 16 bit DMX channel)	MSB
2	Position fine (Lo of a 16 bit DMX channel)	LSB
3	Set the maximum speed	

Reset

When the lifting column is securely mounted and ready for use it needs to be reset. After power up, the lifting column automatically resets by moving down and find the 0% position at the bottom. The automatic reset is activated when the speed (DMX channel 3) is first set to 0% and then set to 1-100%. The lifting column will move with the same speed regardless of the value of channel 3 as long as it is above 0%. When it is 0% it stops. If the value of channel 3 is set to a value above 0% when the lifting column is power up, it must be set to 0% shortly before the reset will begin. When the bottom position is found the lifting column is ready for use, and can be controlled with DMX channel 1, 2, and 3.

The green LED next to the MODE selector indicates, by fast flashing, that the lifting column needs to be reset, before it can be used

Positioning

When the lifting column has been reset it is possible to use it for positioning run.

The position is set on the DMX channel 1 and 2, which controls the rough-and fine-position. Where 100 % is the top-end position and 0 % is the bottom-end position.

The positions lamp indicates, by slow flashing, that the lifting column has been reset and that it is going towards the set position. The position lamp indicates, by stable light, that the lifting column has found the set position and the motor has stopped.



The speed is set using the DMX channel 3, where 100 % is the fastest and 0 % is the slowest.

The lifting column does not run unless the DMX channel 3 is set above zero, and therefore also works as a main brake.

In mode 1-3, the lifting column automatically resets the 0% position when the DMX channel 3 (speed) is set > 0 %. The 100% is always set as the maximum travel length.

DMX channel 1 and 2 can be used to position the lifting column between 0-100 % with the max speed determined by channel 3.

Duty Cycle

Warning! Operating the Lifting Column at a duty cycle higher than recommended, WILL damage the Lifting Column.

The duty cycle is the ratio of ON to OFF time. E.g. the lifting column is moving for 20 seconds, and rests for 40 seconds - the duty cycle is 33%.

The lifting column **MUST NOT** be operated at a duty cycle higher than the values given below:

Load	Speed	Maximum duty cycle	On time / by off time
10 kg	100 %	25 %	(maximum 2 min. / 8 min.)
30 kg	100 %	20 %	(maximum 2 min. / 10 min.)
60 kg	100 %	10 %	(maximum 2 min. / 20 min.)
10 kg	50 %	30 %	(maximum 2 min. / 7 min.)
30 kg	50 %	25 %	(maximum 2 min. / 8 min.)
60 kg	50 %	10 %	(maximum 2 min. / 20 min.)

Synchronized movements of multiple lifting columns

If several lifting columns are installed to perform synchronized movements the best result is achieved by using a fading 16 bit position. By nature there is a slight deviation in performance of the motors so some motors have a slightly higher maximum speed than others.

Like when fading light, the positions of the different lifting columns should be faded, and the lifting columns will tend to follow that fade. When fading the positions:

1. The speed channel should be set to 100 to gain the highest possible speed.
2. The position channel should be added as a 16 bit channel and not just the MSB on channel 1.
3. The speed of the fade needs to be slower than the maximum speed, so the motors have speed enough to perform the movement.

If the fade of the positions is too fast, the lifting columns will move at the maximum speed, and you will see the difference in the motor speed.

If the fade is too slow the lifting columns will move – stop – move – stop, when the position changes, thus giving a discontinuous movement.

Service and Maintenance



Warning! Read “Safety Information” on page 2 before servicing the Lifting column.

Warning! Disconnect the lifting column from AC mains power before handling.

Warning! Refer any service operation not described in this user manual to a qualified service technician.

Attention! Interval of inspections should be determined according to the frequency of use and the working scenario of the lifting column.

Attention! Signs of malfunction or poor operation should always lead to an inspection of the lifting column, and the lifting column should be taken out of operation until the error is eliminated.

Maintenance plan

The results of all the regular inspections are to be documented and kept available at the company. The written result of the last inspection must be kept available at the site of operation, e.g. by an inspection sticker on the lifting column showing the date of the inspection, the basis of the inspection and the name of the inspector.

Before every use and weekly

Every time when rigging the lifting column, before running the lifting column – and at least every week when the lifting column is in use:

- Ensure that the lifting column is correctly and safely mounted
- Ensure that the attached load is correctly mounted
- Inspect the lifting column for damage and breaks.

Monthly

At regular intervals – but at least every month when the lifting column is in use:

- Check the mounting clamp for damages and proper fastening.
- Check that the lifting column is running smoothly.
- Check the secure fastening of the attached equipment.
- Change damaged parts according to this manual.
- Clean dust and dirt on the outside of the system. The cleaners and disinfectants must not be highly alkaline or acidic (pH value 6-8).
- Inspect the connections, cables, and plugs and check for correct functioning

Yearly

The lifting column has to be inspected by a specialist every 12 months.

Every 48 months

The lifting column should be inspected by an authorised expert every 48 months.

On-site service

On-site service and maintenance CAN be provided by the Wahlberg Motion Design, giving owners access to Wahlberg Motion Design's expertise and product knowledge in a partnership that will ensure the highest level of performance throughout the product's lifetime. Please contact Wahlberg Motion Design for details.

Life time of the lifting column

It is Wahlberg policy to apply the strictest possible calibration procedures and use the best quality materials available to ensure optimum performance and the longest possible component lifetimes. The extent of wear and tear depends heavily on operating conditions and environment, so it is impossible to specify precisely whether and to what extent the performance will be affected. The expected lifetime of the lifting column depends on the load, travel length, mounted angle, as well as duty cycle.

Spare parts

Only parts ordered at or approved by Wahlberg should be used in the lifting column to ensure product function and stability. Contact Wahlberg to inquire about spare parts.

Power defect

If the lifting column does not react when the power is connected check the following:

- Check that the power plug is properly connected, both to the POWER IN plug on the lifting column and to the main power plug.

'Power in'



Lifting column - Cheat Sheet

MODE	Functions	DMX channels	Function
0	Neutral function – motor stops	1	Position rough (Hi of a 16 bit DMX channel)
1	Slow speed change (Ramp) with auto reset	2	Position fine (Lo of a 16 bit DMX channel)
2	Normal speed change (Ramp) with auto reset	3	Set the maximum speed
3	Fast speed change (Ramp) with auto reset		
4,5,6,7	Stops the motor unless specified otherwise		
8	Manual mode (for service and installation only!)		
9	Stops the motor unless specified otherwise		

How to get started

1. Mount the lifting column according to the instructions on page 10.
2. Set the DMX address using the 100, 10, and 1 switches. Set the MODE to 1
3. Apply DMX from a Lighting desk, best is a desk with manual faders. Pull all channels on to 0%
4. Apply power to the lifting column.
DMX lamp should be lit, and the mode lamp should be flashing.

Position mode (Mode 1-3, uses DMX channel 1-5)

5. Set all channels (1 – 6) to 0%
6. Set channel 3 to 50% (Max speed).
Now the lifting column will slowly move down till it reaches the bottom-end.
(must be done each time power is connected, so the lifting column identifies its bottom-end)
7. Set channel 1 to 25% (Position).
Now the lifting column will move up till it reaches 25% of the total travel length.
8. Set channel 1 to 75%.
Now the lifting column will move up till it reaches 75% of the total travel length.

Before each use

- Ensure that the lifting column is correctly and safely mounted
- Ensure that the attached load is correctly mounted

Warning! Do not use the lifting column if any damage or error is found!