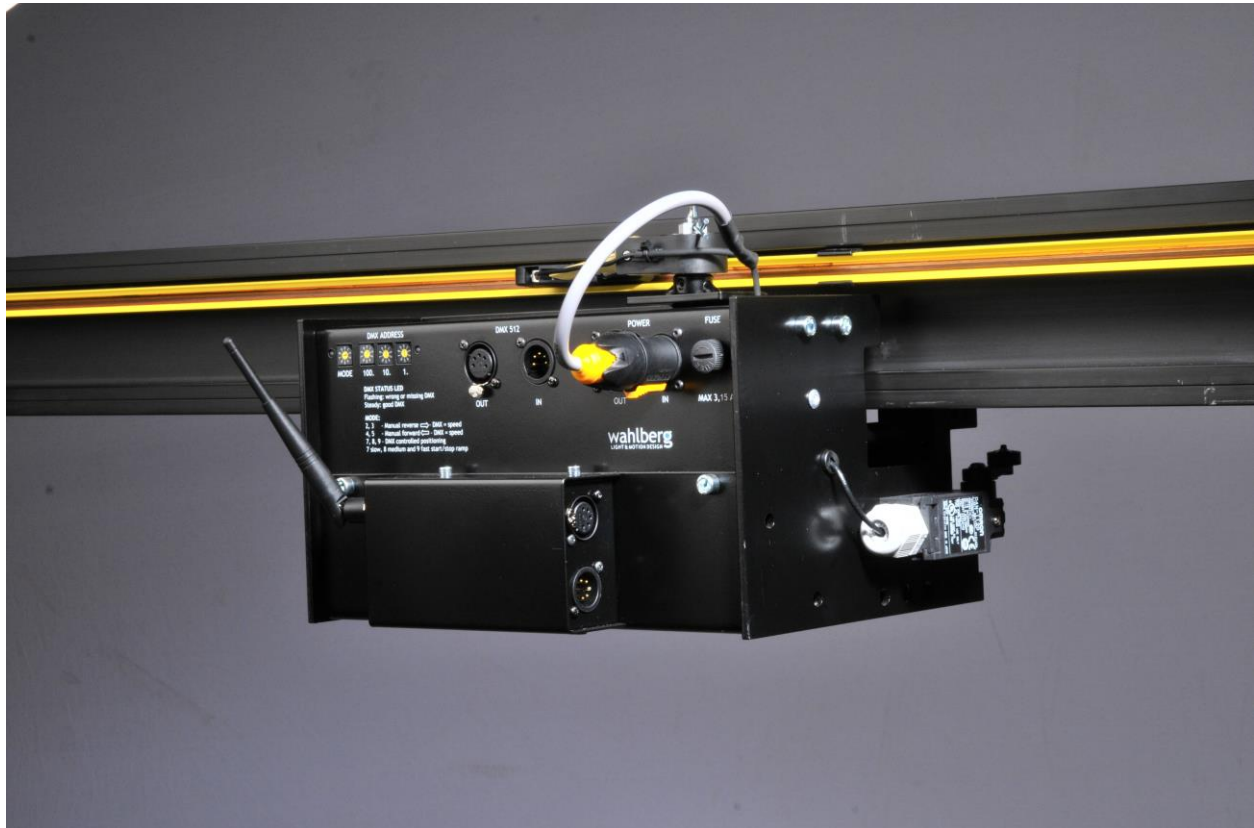


352 Trackrunner

User Manual

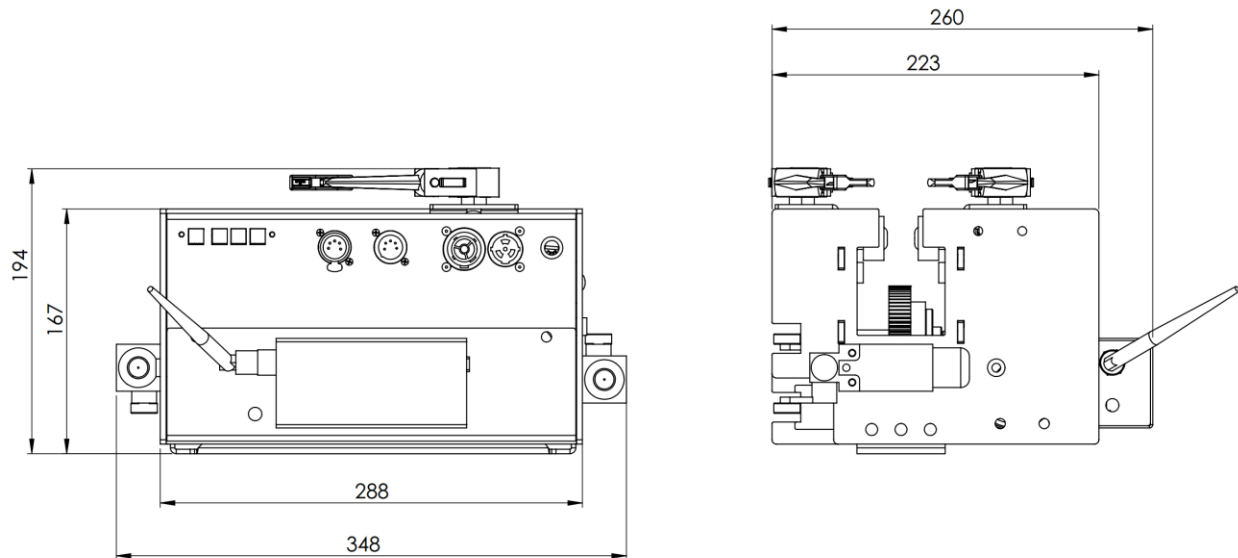


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Technical specifications:

Item No	: 352
Dimensions	: 348 x 223 x 167 mm (13.7 x 8.8 x 6.6 in)
Power supply	: 230V AC 50-60Hz
Power consumption	: Max 120Watt
Power plug	: PowerCON TRUE 1
Max power in equipment	: 600 Watt
DMX control signal	: DMX 512 1990 + DMX 512A / 6 Channels used
DMX Connections	: 5 pole XLR, In & Link
Max lifting capacity	: 100kg
Max pulling capacity	: 500kg
Max speed	: slow motor 0.23m/s (0.75 ft/s), fast motor 0.42m/s (1.38 ft/s)
Minimum speed	: slow motor 0.04m/s (0.13 ft/s), fast motor 0.07m/s (0.23 ft/s)
Noise emission	: 50dB 1 meter from Trackrunner
Weight	: 10.4kg (22.9 lbs)



Product Content

1 Trackrunner
1 User manual
1 powerCON TRUE1 plug

Description

The Trackrunner is a DMX controlled motorized wagon for I-beam. The Trackrunner can move up to 100kg and the capacity can be increased to 500 kg with the use of extra passive wagons. Each wagon increases the capacity 150kg.

The Trackrunner has an advanced positioning system that allows for precise movement.

The desired working area is set as the first thing when using the Trackrunner and then its position is easily set within this area afterwards.

When the working area has been set the first time it is only necessary to set the 0% position after power is applied to the system.

The Trackrunner can be configured in several ways with different drive wheels, power and DMX options.

Area of use

The Trackrunner is intended for indoor use. It is designed to move objects at the weight and speed stated in "Technical Data". Any other use of the Trackrunner 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 Trackrunner.

Do not modify the Trackrunner. Any modification you might need should be done by Wahlberg.

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

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."

Connections

DMX

There are 2 DMX plugs on the Trackrunner. The out plugs is especially useful for connecting DMX controlled devices mounted on the Trackrunner.



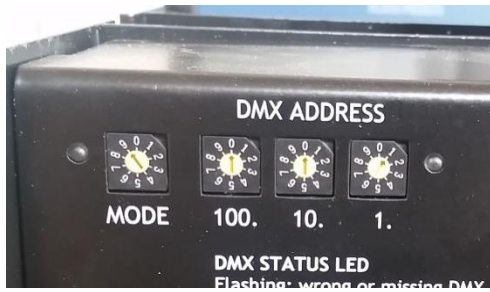
Power

There is a yellow powerCON TRUE1 connector on the front of the Trackrunner. The Trackrunner uses 120/230VAC 50-60Hz.

The out connection can be used to power any device that needs 120/230V AC mounted on the Trackrunner. The connected device can use up to 600W.



Settings



DMX channel

The DMX channel is set on the BCD's on the front of the Trackrunner. It can be changed using a small slotted screwdriver.

It uses 6 DMX channels.

- Channel 1: Position rough. (Hi of a 16 bit DMX channel)
- Channel 2: Position fine. (Lo of a 16 bit DMX channel)
- Channel 3: Max speed
- Channel 4: Manual reverse / Set reverse position (Position = 0%)
- Channel 5: Manual forward / Set forward position (Position = 100%)
- Channel 6: Set position save enable (51 – 54%)

Mode

The mode is set on the mode BCD on the front of the Trackrunner. It can be changed using a small slotted screwdriver.

Mode	Function
0	None. Trackrunner stopped
1	None. Trackrunner stopped
2	Manual reverse slow (← looking into the connectors) No DMX needed
3	Manual reverse fast (← looking into the connectors) No DMX needed
4	Manual forward slow (→ looking into the connectors) No DMX needed
5	Manual forward fast (→ looking into the connectors) No DMX needed
6	None. Trackrunner stopped
7	DMX control with slow positioning ramp
8	DMX control with medium positioning ramp
9	DMX control with fast positioning ramp

DMX Control

The Trackrunner is primarily controlled with DMX. 6 DMX channels are used for controlling it.

DMX channels used for controlling the Trackrunner

DMX channel 1 – Position (16bit DMX channel)

This channel together with channel 2 makes a 16 bit channel for controlling the position. Channel 1 gives the MSB for the position.

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

This channel together with channel 1 makes a 16 bit channel for controlling the position. Channel 2 gives the LSB for the position.

Channel 2 is used to fine tune the position.

DMX channel 3 – Speed

Channel 3 controls the maximum speed of the Trackrunner.

If channel 3 is set to 0% the Trackrunner will not move.

If it is at 50% the Trackrunner moves at 50% speed.

DMX channel 4 – Manual reverse / Set 0% position

The value of the channel determines the speed which the Trackrunner moves in the reverser direction.

This channel overrules movement with positioning system.

Channel 4 has 2 functions.

- *Channel 6 between 51 - 54%: Range setting saving*
When channel is set between 51 and 54% channel 4 sets the 0% position, the 0% position is set when the Trackrunner has been moved with this channel and is set wherever the Trackrunner is stopped.
- *Channel 6 NOT between 51 and 54%: Manual movement*
When channel 6 is not set between 51 and 54% this channel moves the Trackrunner in the reverse direction, but 0% position is **not** set.

DMX channel 5 – Manuel forward / Set range

The value of the channel determines the speed which the Trackrunner moves in the forward direction.

This channel overrules movement with positioning system.

Channel 5 has 2 functions.

- *Channel 6 between 51 - 54%: Range setting saving*
When channel is set between 51 and 54% channel 5 sets the 100% position, the 100% position is set when the Trackrunner has been moved with this channel and is set wherever the Trackrunner is stopped. When setting a range it is important to set the 0% position first because the range is calculated relative to the 0% position.
- *Channel 6 NOT between 51 and 54%: Manual movement*
When channel 6 is not set between 51 and 54% this channel moves the Trackrunner in the reverse direction, but 0% position is **not** set.

DMX channel 6 – Enable Reset / Range setting

Channel 6 enables the “Set 0% position” (channel 4) and “Set range” (Channel 5) functions.

To enable these 2 functions channel 6 must be set between 51 - 54%.

Mounting load

The maximum load that can be mounted on a Trackrunner is 100kg

The Trackrunner has a demountable clamp for mounting the load. The clamp has 5 10mm holes with 50mm spacing between each hole. The clamp is mounted with 4 M8 bolts.

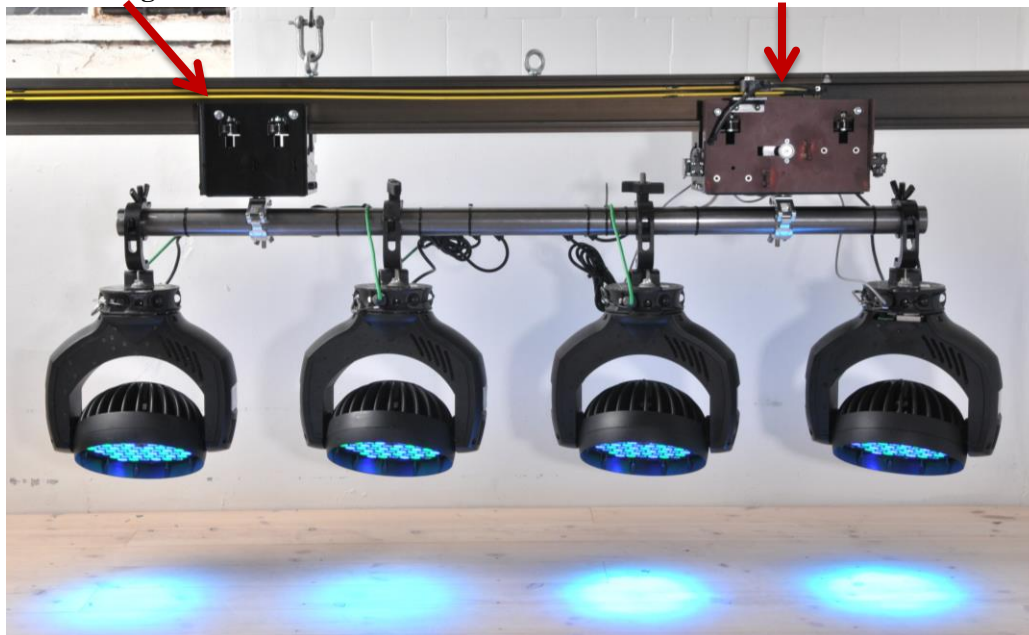


If a bigger load has to be mounted on the Trackrunner a separate passive wagon can be used to increase both the load that can be moved and make the mounting more stable by having mounting points further apart.

One of these passive wagons has a max capacity of 150kg.

Passive wagon

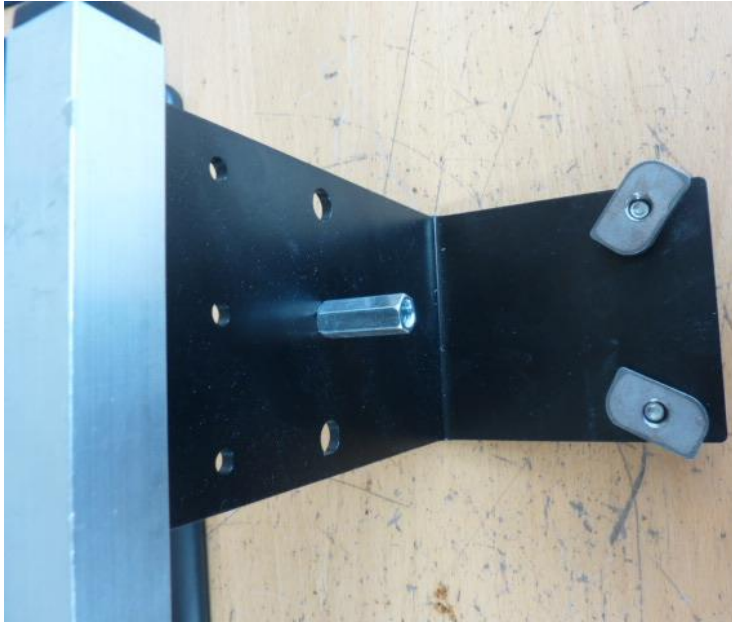
Trackrunner



Mounting the Trackrunner on beam

When mounting the Trackrunner on a beam it can either be pushed on manually when no power is applied to the system or it can be driven on with power applied to the Trackrunner.

When the Trackrunner has been put on the beam the end limits should be mounted on the beam. The end limits have a metal rod that presses the limit switches on the Trackrunner and a security bolt that physically prevents it from driving off the beam in the unlikely case of limit failure.



When mounting these limits pay attention that the rod is mounted in the correct height so that it hits the limit on the Trackrunner when it moves to the end. The rod has to be at the low position for the reverse side and the high position for the forward direction side of the Trackrunner.



When multiple Trackrunners are used on the same beam they should be fitted with limits switch activators as shown on the picture below, so that the Trackrunners cannot run into each other.



Options

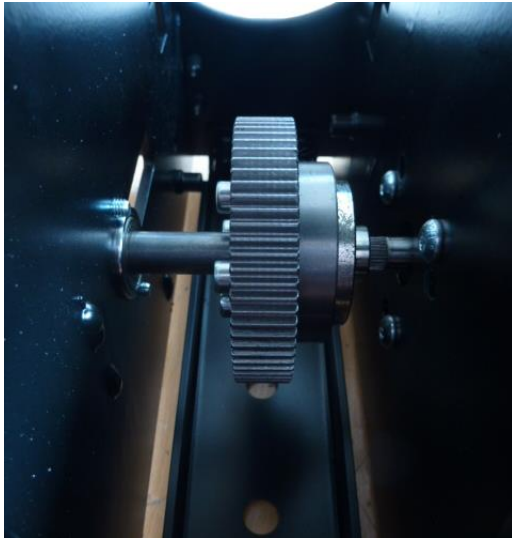
The Trackrunner has several options for drive, power and also DMX input.

Drive

There are 2 options for the drive for the Trackrunner a tooth wheel and a friction wheel. If the Trackrunner doesn't have to go around corners it is recommended to get the tooth wheel version for the best reliability.

Tooth wheel

The tooth wheel provides the most accurate positioning since there is no risk of the wheel moving without changing the position of the Trackrunner itself. But it also requires a beam with teeth on the beam.



Friction wheel

The friction wheel can be used on beams that have been bended a bit and can therefore go around corners. There is also a greater risk of the friction between the wheel and the beam not being great enough and the motor then moves without moving the Trackrunner. If this happens the position will be off until it has been reset again.



Power

Cable

The power cable can be attached directly and hanging from a festoon on the beam.

Power rails

The Trackrunner draws 230V AC from rails on the beams it is running on. This allows for completely wireless movement when combined with wireless DMX.

The power rails are rated for 16A.



The power is drawn from the rails and plugged into the yellow powerCON TRUE1 plug on the Trackrunner.

Battery pack

A 24V battery pack is attached to the Trackrunner. The battery pack is in its own little wagon following the Trackrunner on the beam.

Connecting the Trackrunner to 230V is not an option in this configuration and it cannot provide power for objects connected to it.

DMX

The Trackrunner has a plug for receiving DMX on the front.

Wired

It can be connected using a wire like any DMX controlled device.

Wireless

It can be controlled using a wireless DMX box put on the Trackrunner. This can make the Trackrunner completely cordless if used together with the power rails. The wireless signal is transmitted over the open 2.4Gz band.

Motor

The Trackrunner can be made with 2 different motors a fast and a slow one. With the fast motor the Trackrunner can move a lower load than then slow motor.

Trackrunner - Cheat Sheet

MODE functions:	
MODE 0, 1, 6	No functions, the motor stops.
MODE 2	Manual reverse slow (← seeing into connectors) No DMX needed
MODE 3	Manual reverse fast (← seeing into connectors) No DMX needed
MODE 4	Manual forward slow (→ seeing into connectors) No DMX needed
MODE 5	Manual forward fast (→ seeing into connectors) No DMX needed
MODE 7	DMX controlled positioning. Slow start/stop ramp
MODE 8	DMX controlled positioning. Medium start/stop ramp (default)
MODE 9	DMX controlled positioning. Fast start/stop ramp
DMX channels:	
DMX channel 1	Position rough. (Hi of a 16 bit DMX channel)
DMX channel 2	Position fine. (Lo of a 16 bit DMX channel)
DMX channel 3	Max speed
DMX channel 4	Manual reverse / Set reverse position (Position = 0%)
DMX channel 5	Manual forward / Set forward position (Position = 100%)
DMX channel 6	Set position save enable (51 – 54%)

- 1: Assemble the track(s).
- 2: Remove the security bolt in the end of the track.
- 3: Slide the trackrunner onto the track so that the teeth's on the trackrunner and the track are in contact.
- 4: Apply power to the trackrunner.
DMX lamp should be flashing if no DMX is attached and be solid if DMX is attached.
- 5: Use either manual mode or attach DMX and use channel 4 or 5 to move the trackrunner onto the track. Before attaching DMX make sure all channels are pulled to 0%.
- 6: Mount the security bolt in the end of the track.
- 7: Mount the end stop on both end of the track.
- 8: Pull channel 6 to 52%. This will make it possible to set forward and reverse limits.
- 9: Pull channel 4 to 20%. The trackrunner will now slowly move left (when seeing into the connectors). When the wanted maximum position (left most position) is reached pull channel 4 to 0%
- 10: Pull channel 5 to 20%. The trackrunner will now slowly move right (when seeing into the connectors). When the wanted maximum position (right most position) is reached pull channel 5 to 0%
- 11: Pull channel 1 to 75%
Pull channel 3 to 50%
Now the trackrunner will start to move left with 50% speed and stop on a position 75% from the left
- 12: Pull channel 1 to 25%
Now the trackrunner will start to move left, with 50% speed, to a position that is at 25%