ROSE BRAND®

S-Drive from Triple E

Simple Straightforward Solution for Small Stages and Studios

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TRIPLE E
S-DRIVE SYSTEM

1. S-Drive – Overview

As a lightweight alternative to our TracDrive and E-Drive systems we have developed the S-Drive system specifically aimed to be used in schools and small venues. Offering the same convenience in regards to track mounting the S-Drive offers the perfect solution when space, weight and budget are restricted.

The S-Drive specification is as follows:

- Maximum curtain weight: 75kg on straight track, 50kg on curved track
- Maximum linear speed: 0.7m/s

Designed into the S-Drive unit was exceptional ease of installation, hence it only requires the hard wiring of the power cable into the mains supply (230VAC, 50Hz) plugging in of end-of-travel limits and control pendants. The power connection is realised with a Neutrik PowerCon, the control inputs are connected via the following XLR connections:

- 1 x 4 pin XLR for 3 push button wired pendant (standard control option) or 3 push button pendant with key lock (optional pendant)
- 1 x 6 pin XLR for additional pendant with speed control
- 2 x 3 pin XLR for track mounted limits

The standard control pendant has open, close and stop functions and includes a standard XLR connector for adding an optional second pendant for use either on stage or in a control room. The wireless pendant option can be combined with any wired pendant.

For convenience we furthermore incorporated a motor reverse switch that allows the user to correct the curtain operation direction in relation to the control buttons

The S-Drive motor uses a 0.12kW 50Hz motor and requires a 230V, 13Amp, 50Hz single phase supply.

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2. S-Drive – in Detail

The S-Drive is a compact motor unit incorporating all drive and control elements in one compact assembly. With its compact dimensions and small weight of only 15kg it is easy to install and due to its plug and play configuration quick to get running. The following chapter will give you information on how to set up and maintain an S-Drive motor unit.

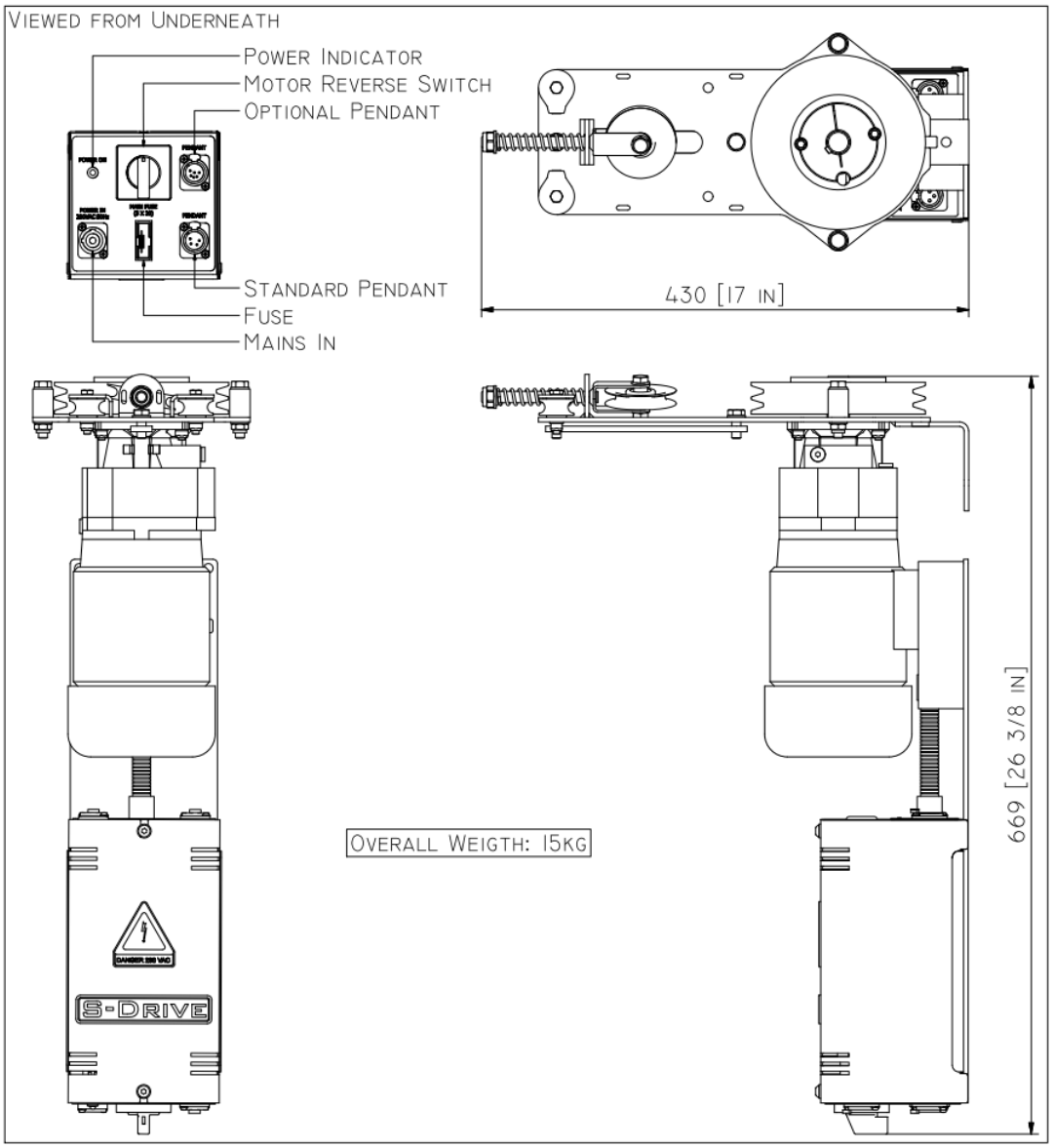

Figure 1: Dimensional Drawing of complete S-Drive Unit

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2.1. Mounting options

The S-Drive motor unit is specifically designed for our E-Rail system and can be mounted onto straight or curved curtain track set ups. For straight track systems the motor needs to be suspended from the ERL17 mounting bracket, for curved lay outs the mounting bracket ERL23 has to be used. An offset overlap for improved overlap of the curtain when closed is available for curved and straight track configurations.

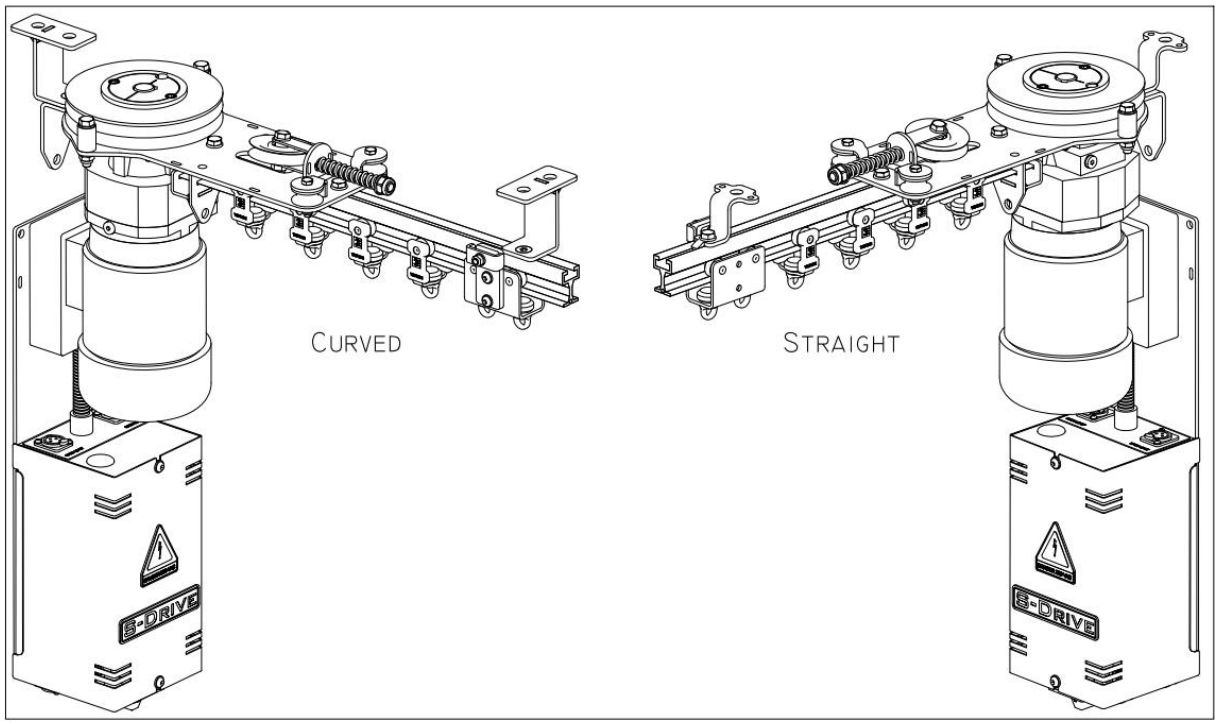

Figure 2: Track mounting options for S-Drive

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2.2. Installation & Maintenance

The S-Drive unit is a maintenance free system; periodic checks should be made for loose components. As we use cord for the power transmission it may be necessary from time to time to re-tension the cord, as the cord is likely to stretch when being exposed to tensile load. To compensate the elasticity of the cord our S-Drive is fitted with a spring tensioning system. The cord may need replacing depending on how often the system is used and loads are applied.

2.2.1. Mechanical Installation

Figure 3 shows the method of how to cord up an S-Drive unit. It is important to mention that the rope tensioner spring must be compressed during and remain partially compressed after cording up, to compensate for rope stretch.

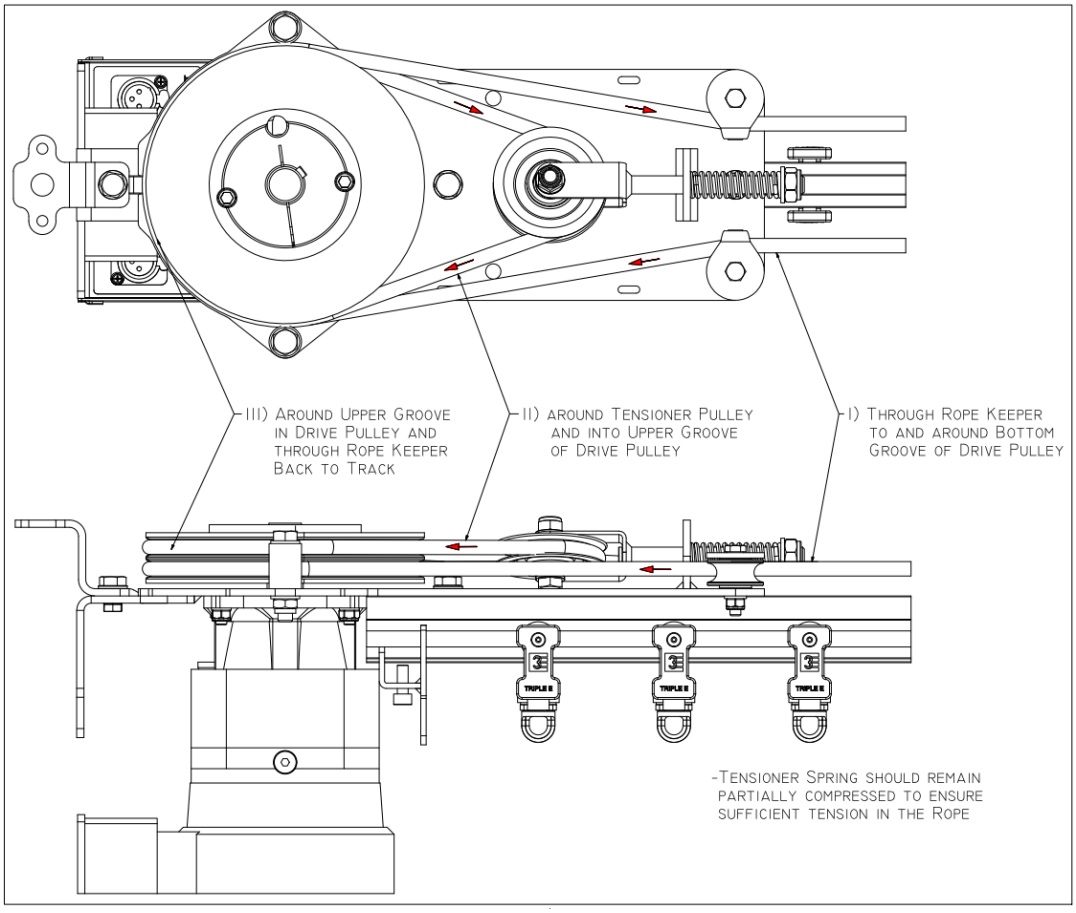

Figure 3: Cording Method S-Drive[1]

[1] Note: Pulley cover not shown for clarity. **Pulley cover doesn't need to be removed for this operation.**

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In the case of a free spinning motor, which means the motor turns without moving the curtain, the cord needs re-tensioning. The following instructions will give you advice on how to proceed (Figure 4):

- **Disconnect the motor power lead** before undertaking any maintenance on the motorised curtain track!
- Compress the tension spring – this can easily be done by slinging a ratchet strap around the top of the spring tensioner and ceiling suspension point of the motor unit
- Loosen off rope clamp on master runner
- Pull slack rope through master runner rope clamp[2] - repeat this step until sufficient tension in the rope is achieved
- Lock off rope clamp and remove the ratchet strap
- Re-connect motor power lead

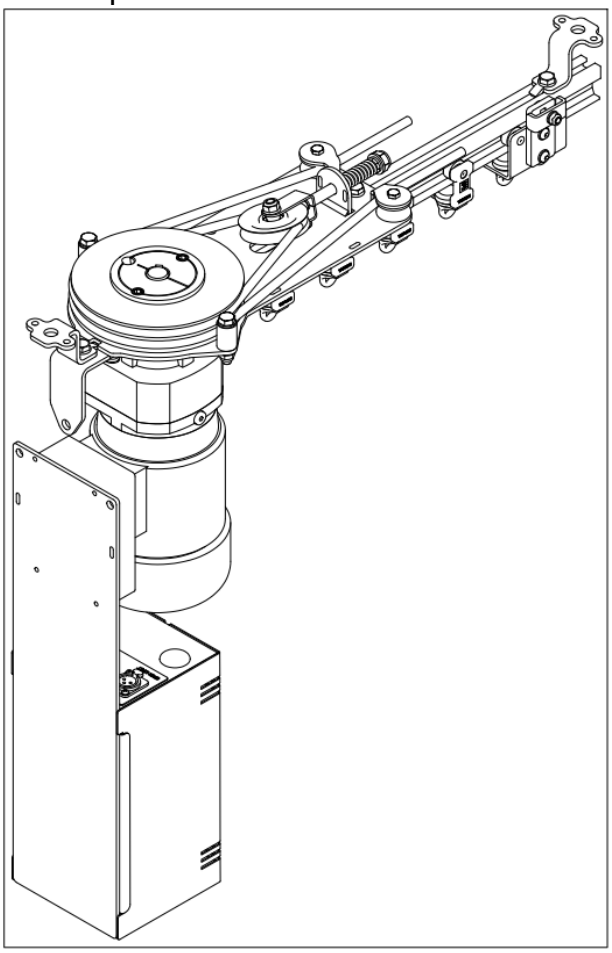

Figure 4: Re-tensioning of cord

[2] This operation might need a second person to assist

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2.2.2. Setting up of Track mounted Limits

The S-Drive unit can only be used to motorise curtains. The two mounting options, curved and straight track, result in two options for the limit mounted direct struck limits shown in the following pictures. A motorised track system has to be fitted with two limit switches one for the open and one for the close direction. The **limit switches serve a very important function, they ensure the correct stopping points for curtains or scenery and also stop the motor running.** By placing them correctly on the track they will stop the curtain in the fully open or fully closed positions. The position of the limit switches on the track must therefore take into account the operating speed of the motor.

NOTE: It is important that this final stop position is reached without hitting any obstructions such as the track endstops as it could damage the motor or gearbox.

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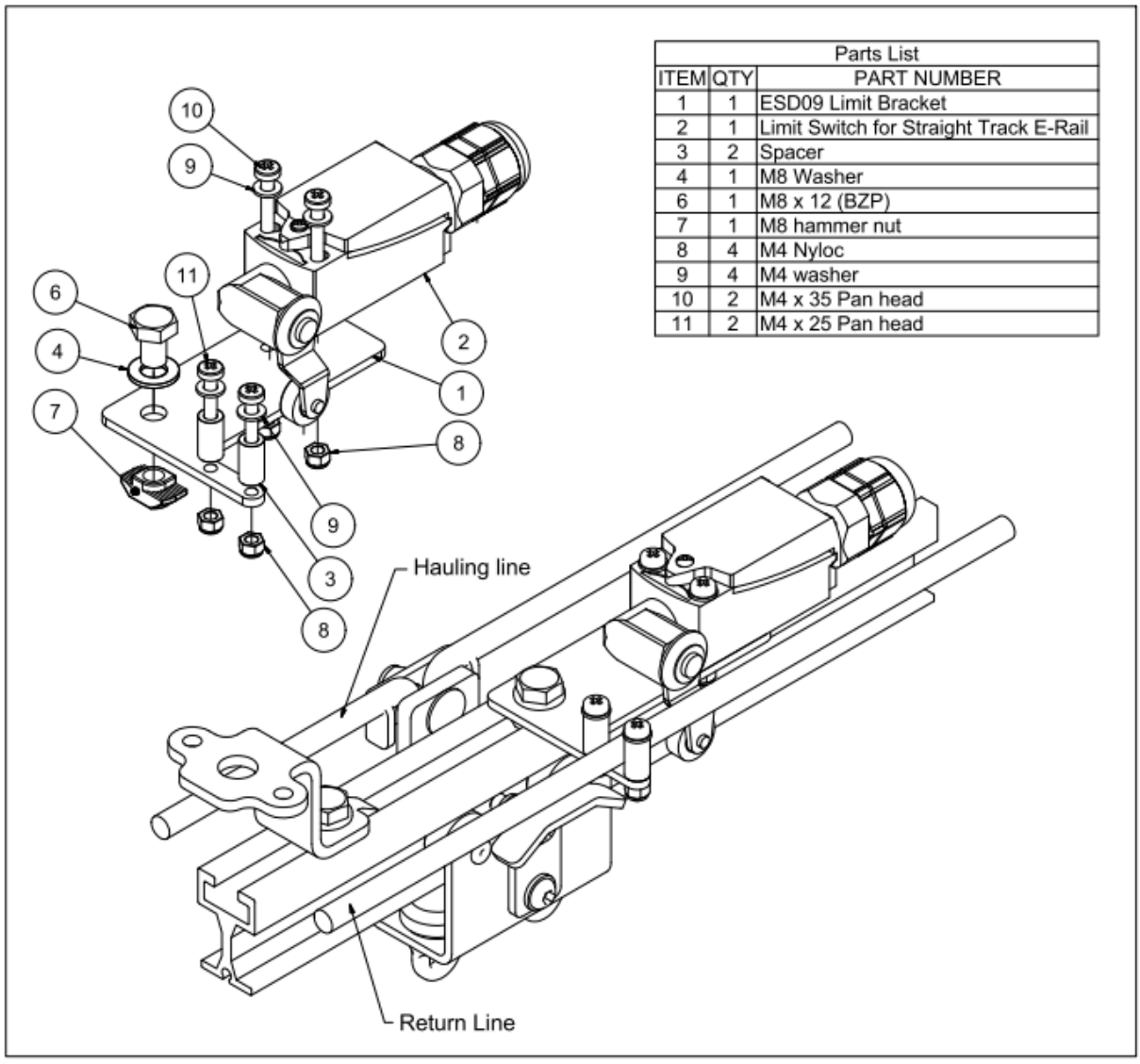

Parts List		
ITEM	QTY	PART NUMBER
1	1	ESD09 Limit Bracket
2	1	Limit Switch for Straight Track E-Rail
3	2	Spacer
4	1	M8 Washer
6	1	M8 x 12 (BZP)
7	1	M8 hammer nut
8	4	M4 Nyloc
9	4	M4 washer
10	2	M4 x 35 Pan head
11	2	M4 x 25 Pan head

Figure 5: Limit Set Up for E-Rail straight. Open Limit and Close Limit Set Up are identical.

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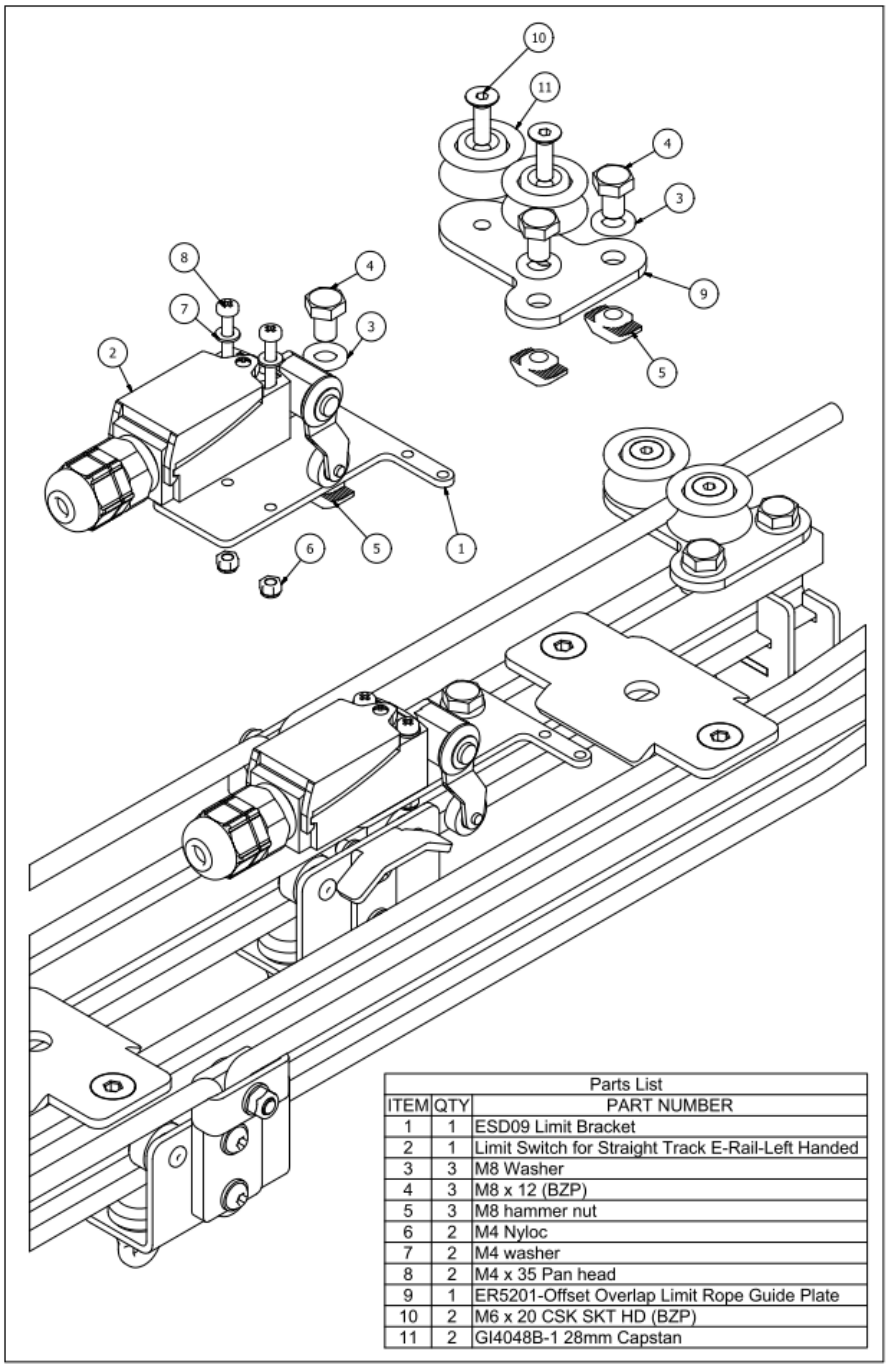

Parts List		
ITEM	QTY	PART NUMBER
1	1	ESD09 Limit Bracket
2	1	Limit Switch for Straight Track E-Rail-Left Handed
3	3	M8 Washer
4	3	M8 x 12 (BZP)
5	3	M8 hammer nut
6	2	M4 Nyloc
7	2	M4 washer
8	2	M4 x 35 Pan head
9	1	ER5201-Offset Overlap Limit Rope Guide Plate
10	2	M6 x 20 CSK SKT HD (BZP)
11	2	GI4048B-1 28mm Capstan

Figure 6: Limit Set Up for Close Limit on E-Rail straight with an Offset Overlap. Please note that the Open Limit needs to be mounted on the same track as the Close Limit as only one of the master runners is equipped with a limit striker.

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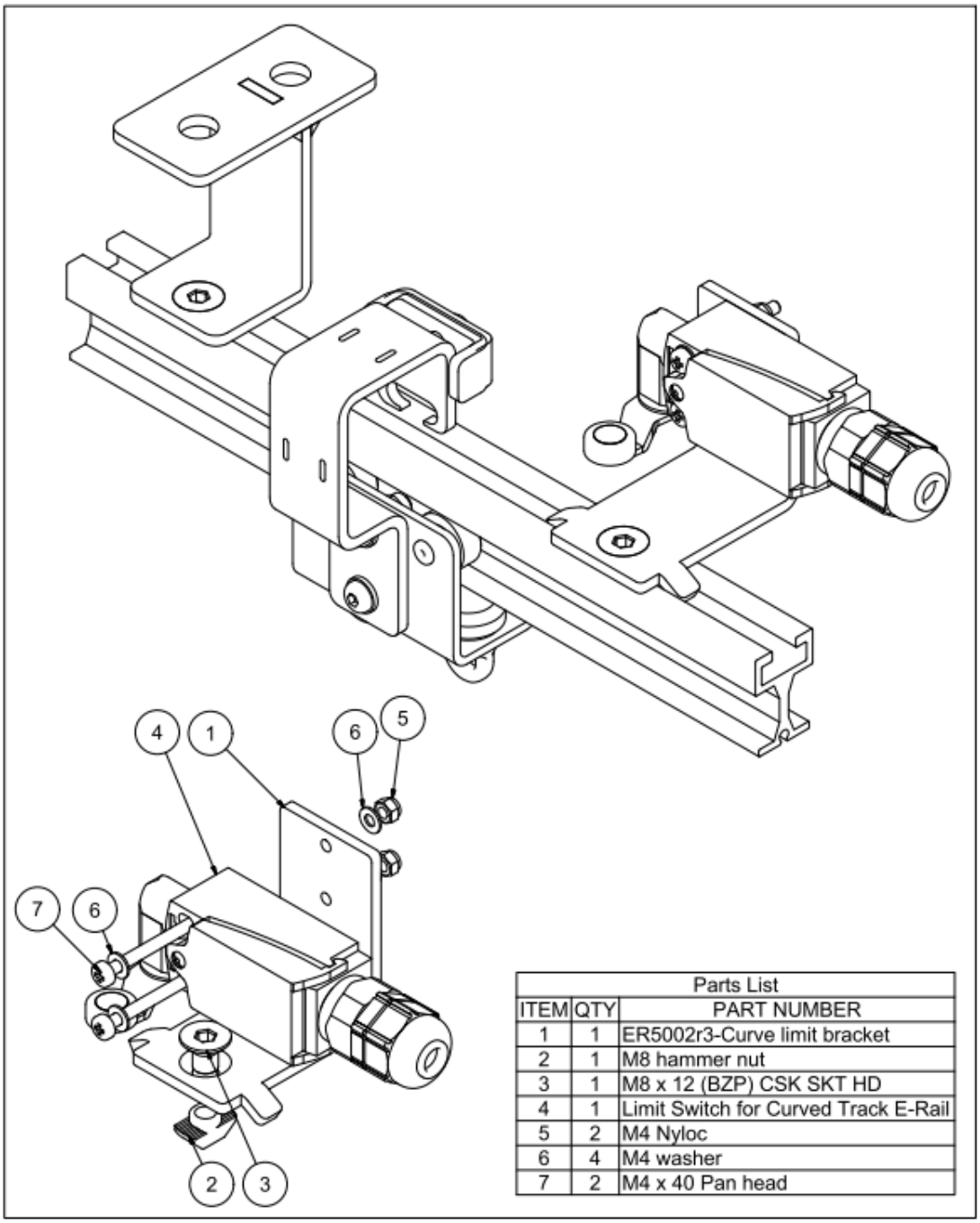

Parts List		
ITEM	QTY	PART NUMBER
1	1	ER5002r3-Curve limit bracket
2	1	M8 hammer nut
3	1	M8 x 12 (BZP) CSK SKT HD
4	1	Limit Switch for Curved Track E-Rail
5	2	M4 Nyloc
6	4	M4 washer
7	2	M4 x 40 Pan head

Figure 7: Limit Set Up for E-Rail curved. Open and Close Limit Set Up are identical. This configuration can also be used on curved tracks with Offset Overlap.

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2.2.3. Limit Cable Installation

It is important to stop the limit cables from touching the master runner. Therefore we supply E-Rail limit cable clips shown on figure 8. These shall be spaced at a min. distance 100mm apart. The cable of the close limit has to be clipped to the track at the opposite side of the rope clamp so the cable can't get trapped between master runner and track. The limit cable for the open position switch can be clipped to on the side of the rope clamp as the master runner is not traveling beyond this limit.

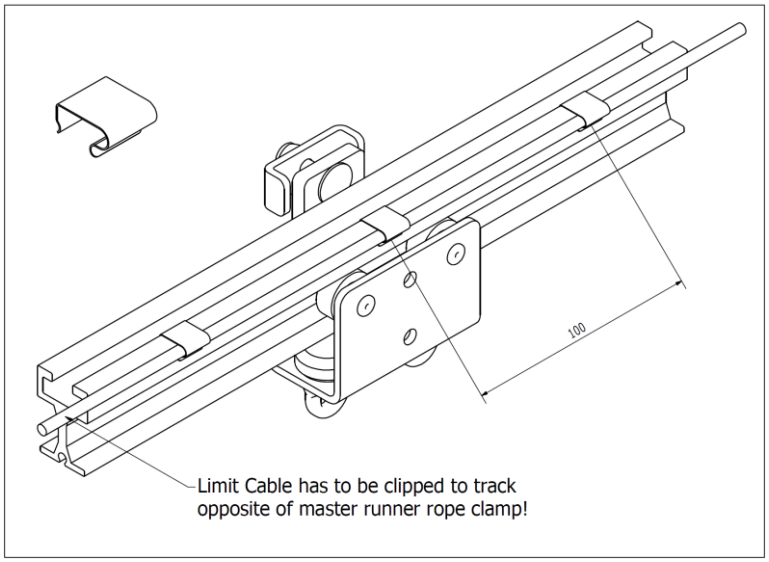

Figure 8: Management of limit cable along track

At the motor end there are two 3pin XLR plugs that are clearly labelled "Open Limit" and "Close Limit". The limit cables can be fixed to the motor unit with cable ties (see figure 9).

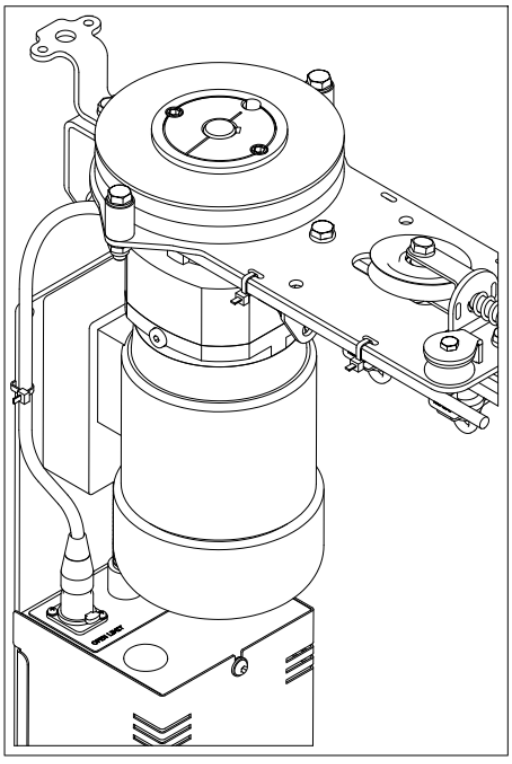

Figure 9: Installation of Limit Cable on Motor Unit.

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2.2.4. Electrical Installation

S-Drive control supply circuit requires a **MOTOR RATED** circuit breaker on the supply so that the unit can be used with an RCD on the supply without causing nuisance tripping.

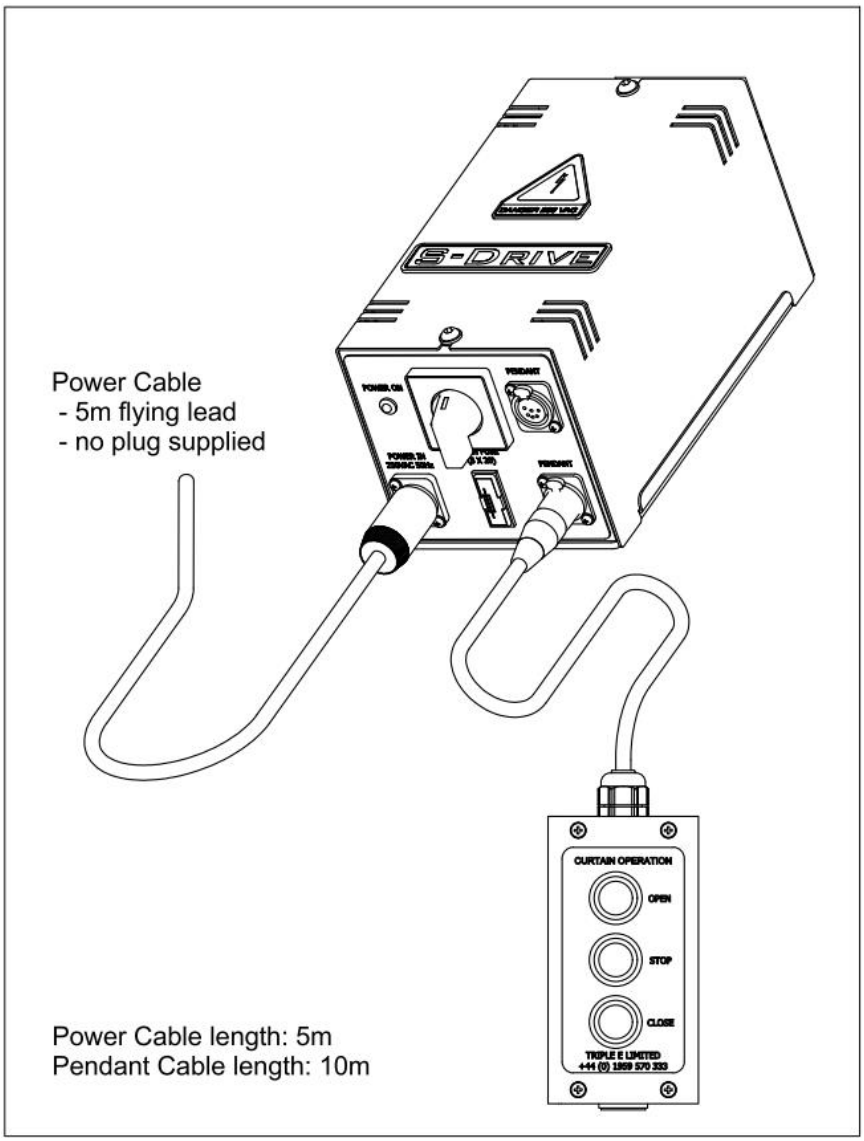

Figure 10: S-Drive & Control