Signaline Catenary Wire
Installation Guide

Fire detection

Signaline

Additional metal wire for self-supporting installation

Available on all Signaline Linear Heat Detector Cables

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Revision 1.4 (2022)
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IMPORTANT GUIDELINES

Please read this instruction leaflet thoroughly before commencing installation.

- Install the linear heat detection cable accordingly to meet local and country installation requirements. (When relevant, Signaline linear heat detection cable must be installed in accordance with NFPA 70 & 72, NEC 760 (National Electric Code) and Authorities Having Jurisdiction)
- Support the linear heat detection cable with catenary wire at a maximum of 15m (50ft) intervals.
- Test the detection cable on the reel, before installation, using a multimeter.
- Ensure the maximum ambient temperature rating of the detection cable will not be exceeded during storage or normal operating conditions.
- Ensure adjacent runs between detection cable are spaced at less than or equal to the maximum approved spacing.
- Ensure the detection cable is not in contact with any material which may conduct heat onto the cable directly. A neo-prene insulator or equivalent should be placed between the fixing clip and linear heat detector
- Ensure any cable glands used are tightened to form a secure and moisture-proof seal around the detection cable.
- Avoid allowing the detection cable to come in contact with any material which acts as a heat sink. This may affect the activation of the cable in alarm situations.

Do not connect lengths of fixed temperature cable in 'T' connections or spurs.

Do not paint the detection cable

Do not place the detection cable or catenary wire under excessive tension. Observe the recommended minimum sag in the cable (see page 3).

Do not bend the detection cable at right angles. The minimum bend radius is 2" or 50mm.

Avoid subjecting the detection cable to mechanical damage which could result in false activation.

Avoid laying the detection cable in areas where heavy traffic may result in the cable being crushed.

INSTALLATION INSTRUCTIONS

Figure 1. Signaline Catenary Wire Example Installation

Signaline Catenary Wire (see figure 1) is available as an optional addition to any of the Signaline Linear Heat Detection cables. The catenary wire is spiraled around the cable and is intended to make the linear heat detector cable self-supporting. The maximum continuous length of Signaline cable with catenary wire per reel is 500m / 1640ft but may be less if a catenary wire is specified with a nylon coated cable, for example. There is no impact on the maximum length per zone for the Signaline linear heat detector cable.

Catenary wire aids in installing Signaline cable in areas which may be difficult to access or have large spans to cover and fixing the cable at the normal recommended spacing (up to 1.5m / 5ft intervals) would be too difficult or time consuming .

Figure 2 shows an example installation of Signaline Linear Heat Detector cable with catenary wire. Please note that a maximum unsupported span of 15m (50ft) is recommended to prevent excessive sag and strain in the cable. This can be between turnbuckle and hook supports or between other intermediate supports as show in Figure 2. Care should be taken not to over-tighten the catenary wire and a sag of 75mm (3in) is to be expected over a 15m (50ft) span.

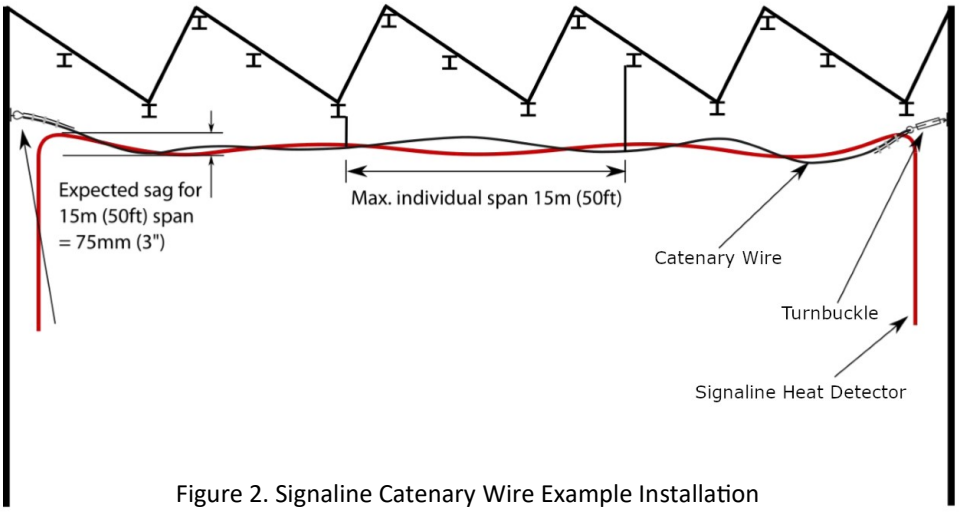

Figure 2. Signaline Catenary Wire Example Installation

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INSTALLATION INSTRUCTIONS (CONT.)

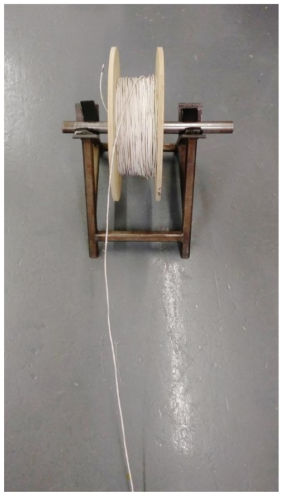
Signaline linear heat detection cable with catenary wire is supplied on reels and should be handled with similar care and attention when installing other variations of Signaline. It is important to always use a reel stand (or equivalent) when installing Signaline heat detectors. The Linear heat detector cable should never be pulled off sideways from a reel lying flat as this will cause excessive twist and will result in damage to the cable.

Figure 3 shows the correct method when installing Signaline Linear heat detector cable with catenary wire. A reel stand is being used and the required amount of cable necessary to install the section being worked on has been spooled off. The reel has not overrun and the remaining cable is still well coiled on the reel.

Figure 4 shows an incorrect method when installing Signaline Linear Heat Detector cable with catenary wire. The lack of back-tension on the reel has meant the reel has overrun while the cable is being spooled off. Furthermore, too much cable has been spooled off the reel at once and there is now a risk of the cable becoming tangled.

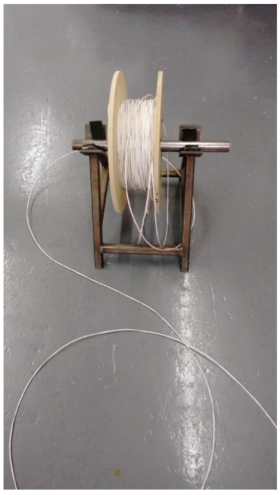
Figure 5 shows an incorrect method when installing Signaline linear heat detectors with catenary wire. While sufficient tension is on the reel to prevent it from overrunning, too much cable has been taken off the reel and there is now a significant risk of it becoming tangled during installation.

Figure 3. Correct Method



- ✔ *Reel stand being used*
- ✔ *Only amount required to be used spooled off*
- ✔ *Some back-tension on reel to prevent over-running (may require two people)*

Figure 4. Incorrect Method



- ✔ *Reel stand being used*
- ⚠ *Too much cable spooled off reel in one go*
- ⚠ *Little or no back-tension on reel means over-running has occurred*

Figure 5. Correct Method

- ✔ *Reel stand being used*
- ✔ *Sufficient back-tension on reel to prevent over-running*
- ⚠ *Too much cable spooled off at once resulting in tangling of cable*

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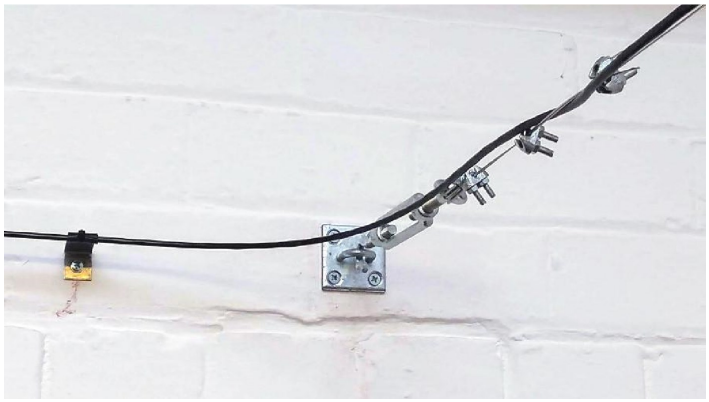
INSTALLATION INSTRUCTIONS (CONT.)

The images below show a typical installation of catenary wire using a turnbuckle (figure 6a) and hook (figure 6b) support method (see figure 7, on the following page, for mounting kit). The turnbuckle and hook should be installed in place first, before installing the Signaline cable with catenary wire. The required amount of detection cable should be spooled off the reel taking into consideration the points discussed on previous page and laid out across the span to be traversed. Cut the catenary wire only (taking care not to damage the cable) at either end of the span plus an additional one or two meters, making sure there is enough catenary wire to loop through the turnbuckle or hook and secure on itself.

Attach the catenary wire to the turnbuckle and hook at either end making sure the linear heat detector cable is being supported and is not damaged in the process. Pull the catenary wire tight so the remaining sag can be taken up by tightening the turnbuckle. Finally, tighten the turnbuckle taking care not to place excessive tension in the catenary wire and linear heat detector cable. Over the maximum span of1 5m (50ft) the catenary wire should be tensioned to result in a recommended sag of approximately 75mm (3in). If intermediate supports are required the cable should be attached to these in the process before the catenary wire is tensioned.



Figures 6a. Example support method with turnbuckle

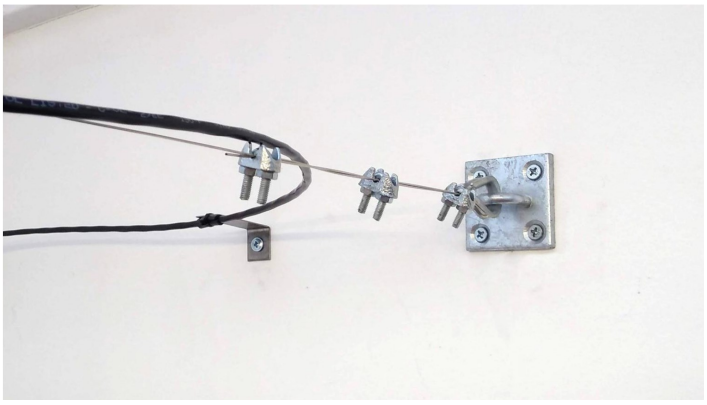


Figure 6b. Example support method with turnbuckle and hook (shown)

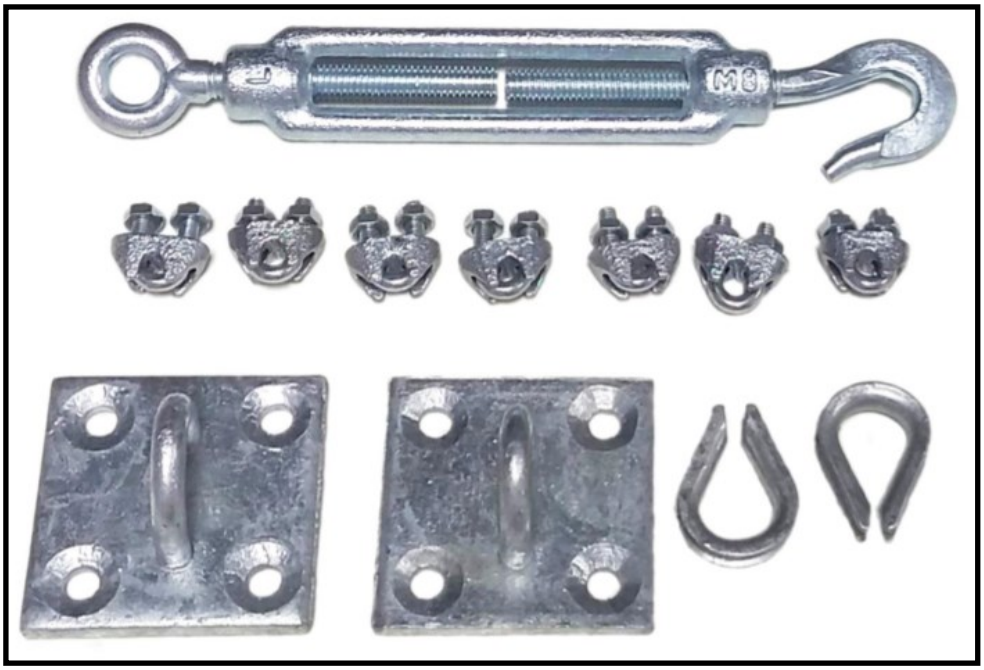


Figure 7. Turnbuckle and hook mounting kit. Sold separately (part code CSCATEN001)

Figure 8. Example of finished installation for Signaline Catenary Wire