

Service Guide

Choosing the right product
and service level for your
system requirements

• **INTELLIGENCE INSTALLED**

We offer a range of CableGuardian service levels, including temporary or permanent installation

To learn more about Viper's CableGuardian technology, please view or download our [CableGuardian Product Overview Brochure](#).

Asset Condition Assessments

CableGuardian units are temporarily installed at the PSP to provide a Tier 2 insulation resistance (IR) condition assessment for each outgoing feeder as well as the PSP internal 650V electrical system. This enables identification of any poor performing feeders or issues in the PSP as well as disclosure of any existing IR faults in the system.

The Tier 2 assessment enables decisions to be made on which feeder or feeders to investigate further. Additional CableGuardian units can then be deployed to trackside locations along the feeder(s) to provide Tier 1 level condition insights. Depending on customer requirements, accessibility and time available, a single or multiple units can be deployed to split the feeder(s) into smaller and smaller sections which enable more and more granular information to be obtained about the system condition. The service can, therefore, be used to identify condition-based equipment replacements as opposed to blanket renewal of life expired assets.

No CAPEX, quick turnaround, condition assessment and disclosure of existing faults (if present) based on a 'snapshot in time'.

Tier 2 with roaming Tier 1 units

One CableGuardian unit per feeder is installed at the PSP with optional additional roaming units to provide temporary enhanced Tier 1 monitoring when required.

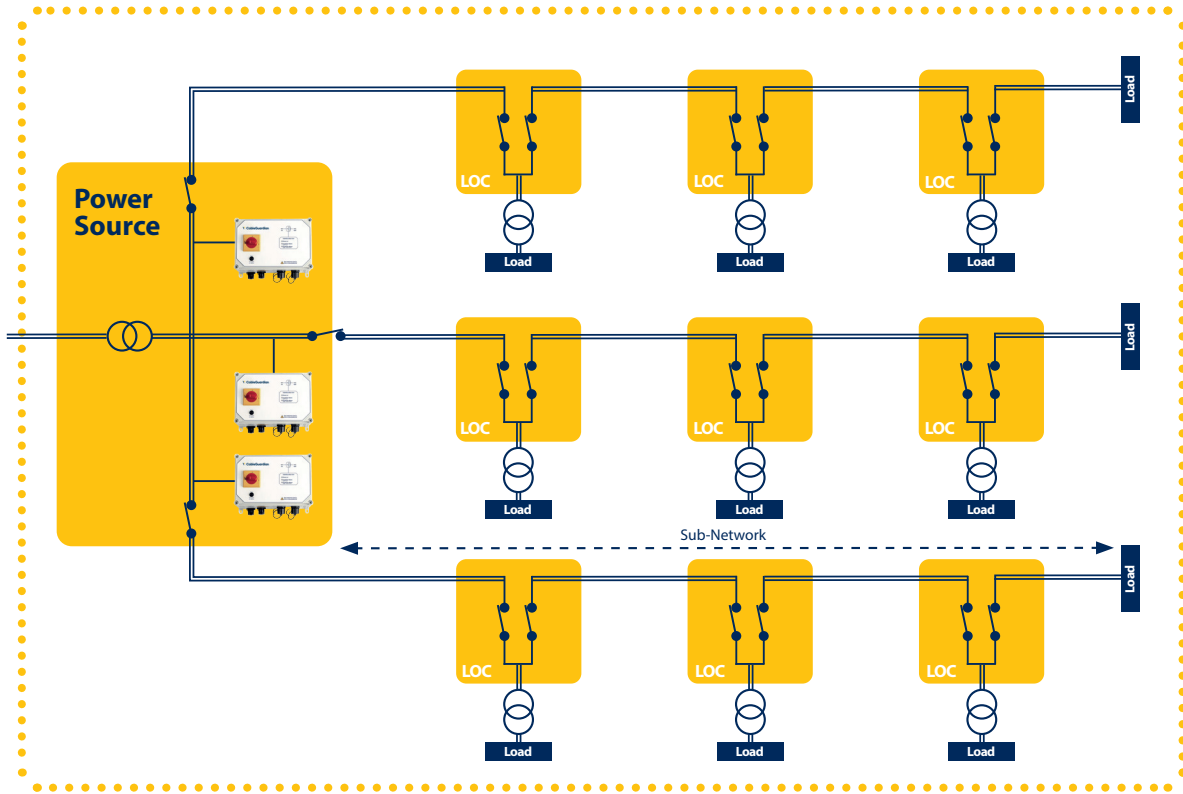
Provides permanent Tier 2 monitoring (i.e. continuous feeder monitoring rather than a snapshot in time) which avoids fluctuations caused by changes in weather or other time related variances. Minimises the upfront CAPEX whilst providing the flexibility to enhance the monitoring by deploying roaming units trackside when the system condition or operational circumstances warrant it.

Tier 1

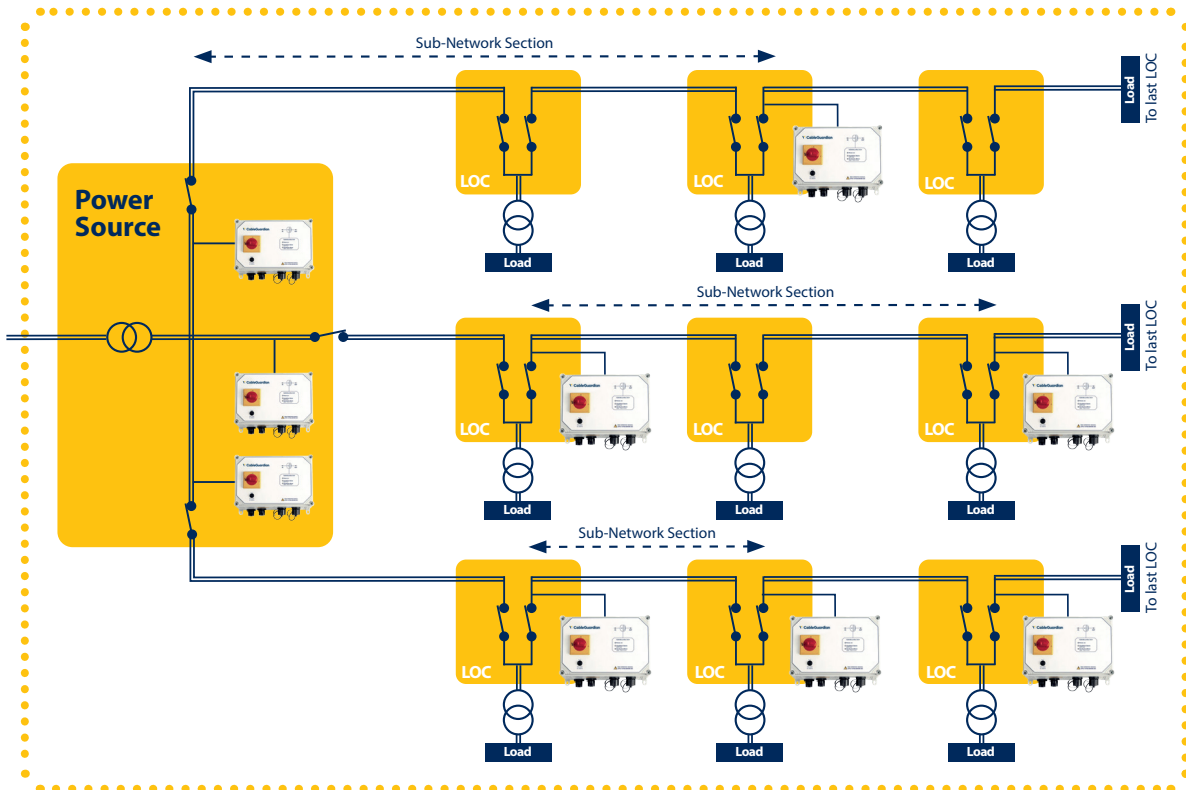
One CableGuardian unit per feeder is installed at the PSP with additional units permanently installed in trackside apparatus housings along the feeders to provide enhanced monitoring and fault location capability.

Provides permanent Tier 1 monitoring (continuous cable section monitoring rather than a snapshot in time) at sub-network cable level, avoiding fluctuations caused by weather and time variances, enabling reliable monitoring of critical power systems without roaming units, and minimising boots on ballast and delay per incident for unavoidable faults.

Tier 2 sub-network monitoring – Individual Feeders



Tier 1 sub-network section monitoring – Individual cables or groups of cables



More about the CableGuardian Asset Condition Assessment

The CableGuardian Asset Condition Assessment offers reliable insights into the health of signalling power supply systems, supporting planned maintenance as part of a proactive asset management strategy.

CableGuardian units are temporarily installed at the PSP to conduct a Tier 2 insulation resistance (IR) condition assessment for each outgoing feeder, as well as for the PSP's internal 650V electrical system. This allows for the identification of underperforming feeders or issues within the PSP, along with the detection of any existing IR faults in the system.

The Tier 2 assessment helps determine which feeder(s) may require further investigation. Additional CableGuardian units can then be temporarily deployed at trackside locations along the identified feeder(s) to provide Tier 1-level condition insights. Based on your requirements, accessibility, and available time, one or multiple units can be installed to subdivide the feeder(s) into smaller sections, allowing for increasingly detailed system condition analysis.

Spot replacement instead of blanket renewal:

The service can be used to identify requirements for condition-based spot replacement of equipment as an alternative to blanket renewal of life-expired assets.

Asset managers need to invest their limited budgets wisely, focusing on replacing only the equipment that is absolutely necessary and extending the life of assets that are in a serviceable condition despite reaching their original design life. CableGuardian provides the insights required to make these critical decisions with confidence.

Cost effective alternative to trackside mobilisations/ Enabling planned maintenance or repair:

This service allows asset owners to gain valuable insights about the health of their system at the time of the assessment; enabling planned maintenance and repair and saving on unexpected maintenance costs. Tier 2

assessments can usually be undertaken without the need for line possessions or trackside access.

Identify faults with individual feeders:

This service narrows down suspected faults to specific feeders that have a potential issue. Depending on time and access availability, faults can then be narrowed down to individual cable sections or equipment housings on the feeder.

Identify issues with your system's PSP (Principal Supply Point):

Asset owners are often unable to locate system faults, spending many shifts testing feeders, when the fault may actually lie at the Principal Supply Point (PSP) itself. This issue arises due to the limitations of other insulation monitoring systems, which are unable to identify faults at the PSP. Our service can help identify if PSP or feeder faults are present.

The equipment is installed by the customer with onsite or remote support from Viper Innovations, if required.

Viper Innovations carry out the required system engineering and online portal build as part of the condition assessment. Viper can provide onsite support to guide customers in installing the equipment and completing the assessment directly, or the customer can install the equipment and draw their own conclusions straight from the CableGuardian online portal after training from Viper.

Already using another insulation monitoring device?

CableGuardian Asset Condition Assessments can still be performed independently, identifying and locating faults that your current device might miss. With advanced detection capabilities, CableGuardian is not adversely affected by system insulation capacitance and, unlike other devices, continues to measure accurately even when severe capacitance imbalances are present across the system thus ensuring results are reliable and trustworthy.

Locate faults on troublesome systems with persistent Low IR:

If your system is showing signs of persistent low IR or ongoing faults, this service can help to provide a diagnosis at short notice and usually within one shift.*

**Assessment times will vary depending on the size of the system and number of feeders – average completion times*

viperinnovations.com/cableguardian

Ready to book an Asset Condition Assessment?

Step 1

Simply provide us with the details of the system you wish to be assessed. [Contact Us.](#)

Step 2

We will liaise with you to complete the system engineering and create an online CableGuardian portal.

Alternatively, we can quickly mobilise and configure a generic CableGuardian portal.

Step 3

We will arrange a suitable date for the onsite equipment installation. You can choose from two options:

Option 1: Viper's team attends site to support the temporary installation.

Option 2: Viper provides remote support to assist with the temporary installation.

The extent of support can be customised to meet the specific requirements of the task.



Can't decide?

View the comparison table...

If you are unsure whether a temporary or permanent installation best meets your needs, you can explore our Products & Services Comparison Table below or contact us via our [web form](#).

	Temporary Installation	Permanent Installation		
Features & Benefits	Condition Assessment Service	Tier 2 System Purchase	Tier 2 System Purchase with Roaming Tier 1 Units	Tier 1 System Purchase
Fast Turn Around	✓ Complete in one shift*			
CAPEX	None (service charge only)	One unit per feeder	One unit per feeder, plus typically 1-2 roaming units	One unit per feeder, plus configurable number of units depending on requirements
Monitoring & fault location level	Sub-network section level (cable)	Sub-network level (feeder)	Sub-network section level (cable)	Sub-network section level (cable)
Identify Weather-Dependent Faults	X (Will identify faults present at time of assessment)	✓	✓	✓
Identify Time-Dependent Faults	X (Will identify faults present at time of assessment)	✓	✓	✓
Access to historic system data and trending via the Portal	X	✓	✓	✓

*Typically Condition Assessments can deliver valuable insights in one shift.



Get in touch with one of our experts today and learn what CableGuardian can do for you.

viperinnovations.com/contact

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