Grid Solutions

DWATCH

The Smart Operating Mechanism

In the digital era, the DWatch mechanism is the logical evolution of the traditional CMM mechanism, combining advanced software with the hardware characteristics and benefits of the original.

Intelligent Disconnector Monitoring and Control

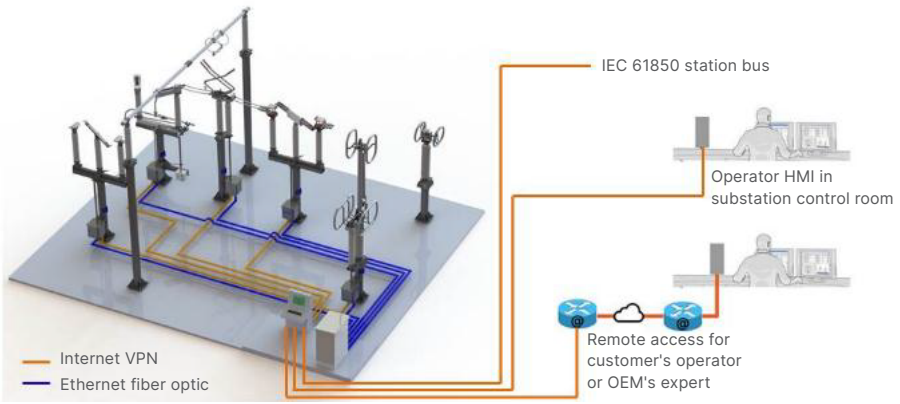
DWatch performs permanent real time monitoring of the operational parameters of disconnectors and records all operating curves locally.

The DWatch also controls the speed of the live part during opening and closing in a specific and programmable manner for all disconnector types. These profiles can be easily set by internal dip-switches. Such control helps in always having a constant operating time in different conditions of power supply and load.

Secured on-line communications easily integrate into customer IT architectures to deliver relevant data to Maintenance Managers, Asset Managers and Network Operators.

The DWatch mechanism provides an exhaustive real time condition assessment of critical disconnectors with incipient failure detection features to reduce the chances of catastrophic equipment failure and preserve network performance.

DWatch records information coming from the sensors installed on the disconnector and analyses it with standard models programmed into the system.



Technical center architecture

The new digital DWatch

renders all disconnectors inside the substation more intelligent and is fully compliant with IEC 61850

Customer Benefits

- Continuous on-line monitoring and control of mechanical parts and live part temperature
- Early detection of excessive wear and tear according to actual health
- Flexible configuration
- Improved reliability, extended lifetime and predictive maintenance
- Scalable solution

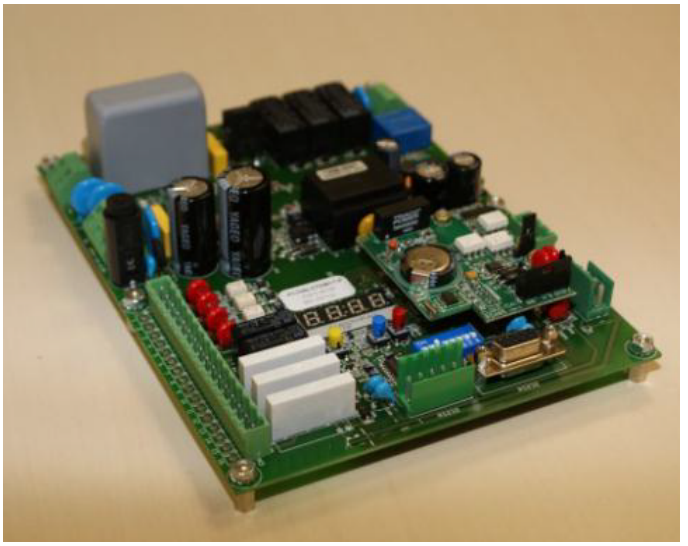
GE VERNOVA

DWatch Mechanism Features

Stainless Steel Box	√
Irreversible gearbox	√
IP55	√
Emergency crank	√
Padlockable front door	√
Digital communication plug	√

DWatch Mechanism Characteristics

Robust design for all environmental conditions	√
Easy wiring	√
Reduced maintenance costs	√
Variable speed during operations	√
Suits any motor supply voltage	√
Time operation not voltage supply dependent	√
Modularity to suit all installations	√
Lubricated for life	√



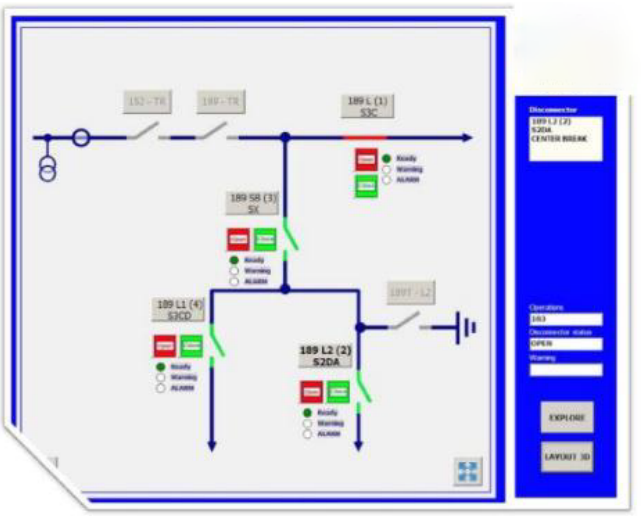
DWatch Electronic Board

Typical installation of DWatch mechanism - external view

DWatch mechanism with DWatch proxy and fiber optic option

SPVL disconnector type with DWatch mechanism installed

DWatch HMI local



Example of Control Dashboard with DWatch

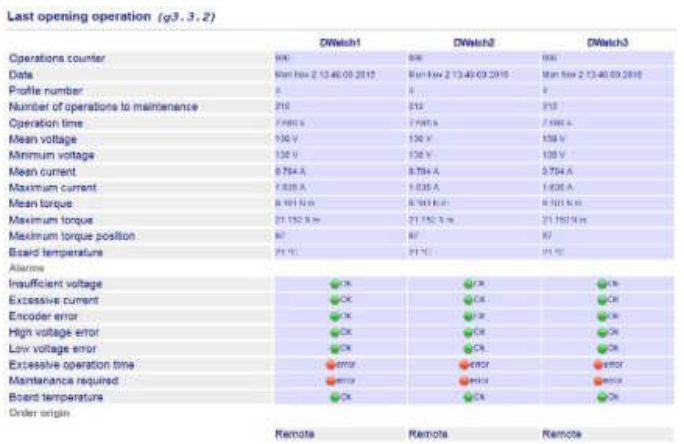
Digital Communication

Many sensors are integrated in the disconnector which communicate with the substation in digital standard IEC 61850 via fiber optics.

- The patented US 9,071,190 B2 solution also offers the possibility to propose a remote substation diagnostics service.

Benefits

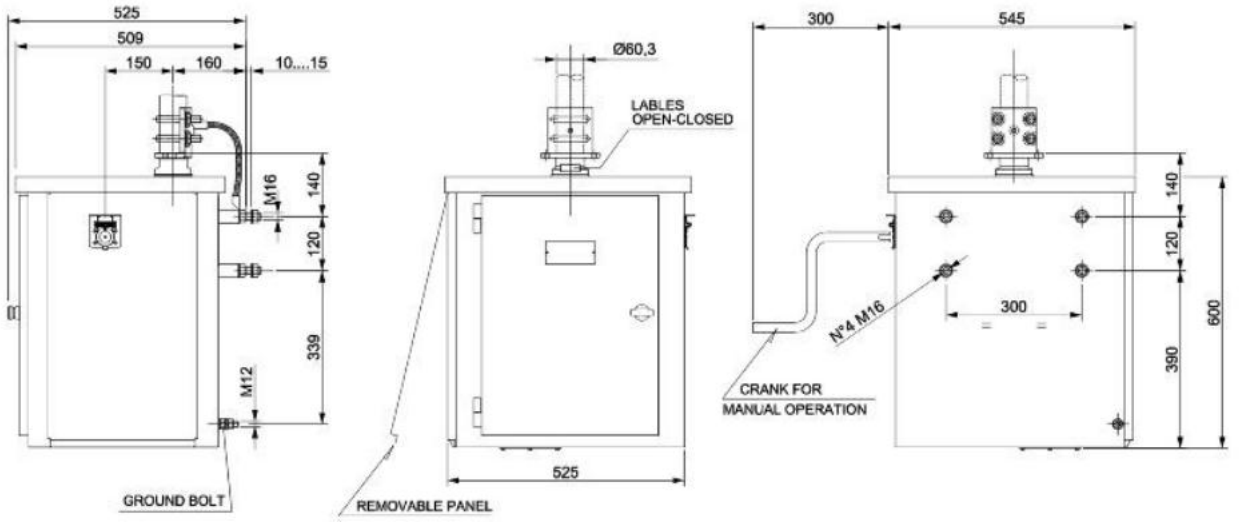
Disconnector maintenance planned in advance as necessary and early detection of eventual malfunctions. In fact, the disconnector only requires maintenance due to its effective load level, with the consequent benefits in terms of costs as well as optimizing overload management of the electrical network.



DWatch HMI web based

DWatch Technical Specifications

Voltage Input Power Supply Auxiliary Supply	 Vdc/Vac [V] Vdc/Vac [V]	 70-250/50-400 60-375/85-265
Environmental Condition	Tmin/Tmax[°C]	-40/+55
Optional relay output	n°/Imax	5/5
Mechanical data	Interface Weight Main dimensions (bxhxd) [mm]	120×300 80 kg 550×750×550
Equipment reliability	MTTF [yr]	60
Interfaces	Digital Analog (typ)	R-232/RS-485/IEC 61850 8na+8nc
EMC	IEC 62271-102 par 5.18	
Software	1 x client license	
PC requirement	Operating system	WIN XP or better
Web server	Embedded (opt)	Configurable



Standard dimensions. Different sizes available upon request.

For more information, visit
gevernova.com/grid-solutions

GEA-N50020
English
250602

GE VERNOVA