

SMART GRIDS

Connected, efficient, sustainable energy for cities

3M will showcase innovative and cost-effective solutions that enable Europe to progress in making our cities smarter. A smart city consists of grid automation, smart & efficient buildings, storage of renewable energy and overall CO2 reductions. 3M has developed a number of innovations to assist the creation of Smart Grids and protect the environment by offering [a broad portfolio of innovative and efficient solutions](#), which shall enable and optimized balance between the achievement of the realisation of the European energy targets (20-20-20) and the realisation of cost efficient Grid intelligence.

I. 3M™ Sensored Cable Accessories



*3M™ Sensored Termination
QX-T24I-vi1-C*

The new Sensored Cable Accessories are designed to provide fast and efficient way to measure medium voltage distribution grid parameters. As part of the electrical network transition, more and more energy will be fed from decentralized renewable energy production. Sensored Cable Accessories are innovative medium voltage cable accessories, with integrated high accuracy sensors, that allow the efficient integration of renewable energy in the grid system. Sensored Cable Accessories allow a simple, cost-effective and fast upgrade of existing medium voltage network stations by the retrofit of existing distribution infrastructure with a highly accurate current and voltage measurement system. Installation is quick and easy (plug and play), requiring no modification to the existing infrastructure, no intervention on the switchgear and can be done by any high voltage electrician. The investment costs are therefore relatively low. Sensored Cable Accessories include only passive elements, with no needs of external power source and the product is already pre-calibrated, ensuring that the sensor yields correct values immediately after installation. **Sensored Cable Accessories allow a cost-effective, simple and fast upgrade of existing medium voltage network stations, providing highly accurate data and offering real possibilities to control and improve energy power quality service.**

II. 3M™ Novec™ 1230 Fire Protection Fluid

3M™ Novec™ Products address the need for safe, effective and environmentally sustainable solutions in a wide range of industrial and electronics applications. Novec offers a variety of options, for example, as an environmentally friendly fire extinguisher, a high-quality coating on electronic materials or as a prospective SF6 replacement in new medium-voltage switchgear. Novec has an excellent environmental profile, in that it does not deplete the ozone layer and has low global warming potential.

Novec 1230 Fire Protection Fluid is used as an environmentally responsible and safe fire extinguishing agent to protect high value assets (computer rooms, control centers, electronics, marine, oil & gas, museums and archives, military) and other essential facilities. It looks exactly like water, but will not cause the damage associated with water when turning off a fire. Novec 1230 contains a breakthrough compound that provides a significant environmental advantage, and is developed as a clean agent halon replacement alternative to non-sustainable technologies such as HFCs in fire protection systems. Novec 1230 is a liquid at room temperature with a low vapor pressure which allows for ease in handling, storage and shipping when compared to conventional clean extinguishing agents. It gasifies immediately after being discharged and suppresses the fire by absorbing the heat, totally flooding the protected space with gaseous agent. Compared to other products, Novec 1230 does not deplete the ozone, offers a 99% reduction in greenhouse gases in critical function fire suppression, and has a global warming potential of 1 over 100 years. The solution is not targeted to phase out or to be submitted to any regulatory restrictions anywhere in the world. Novec 1230 fluid offers a unique combination of safety, low environmental impact and extinguishing performance, making it **the first chemical halon replacement to offer a viable, long-term, sustainable technology for special hazards fire protection.**



*3M™ Novec™ 1230
Fire Protection Fluid*