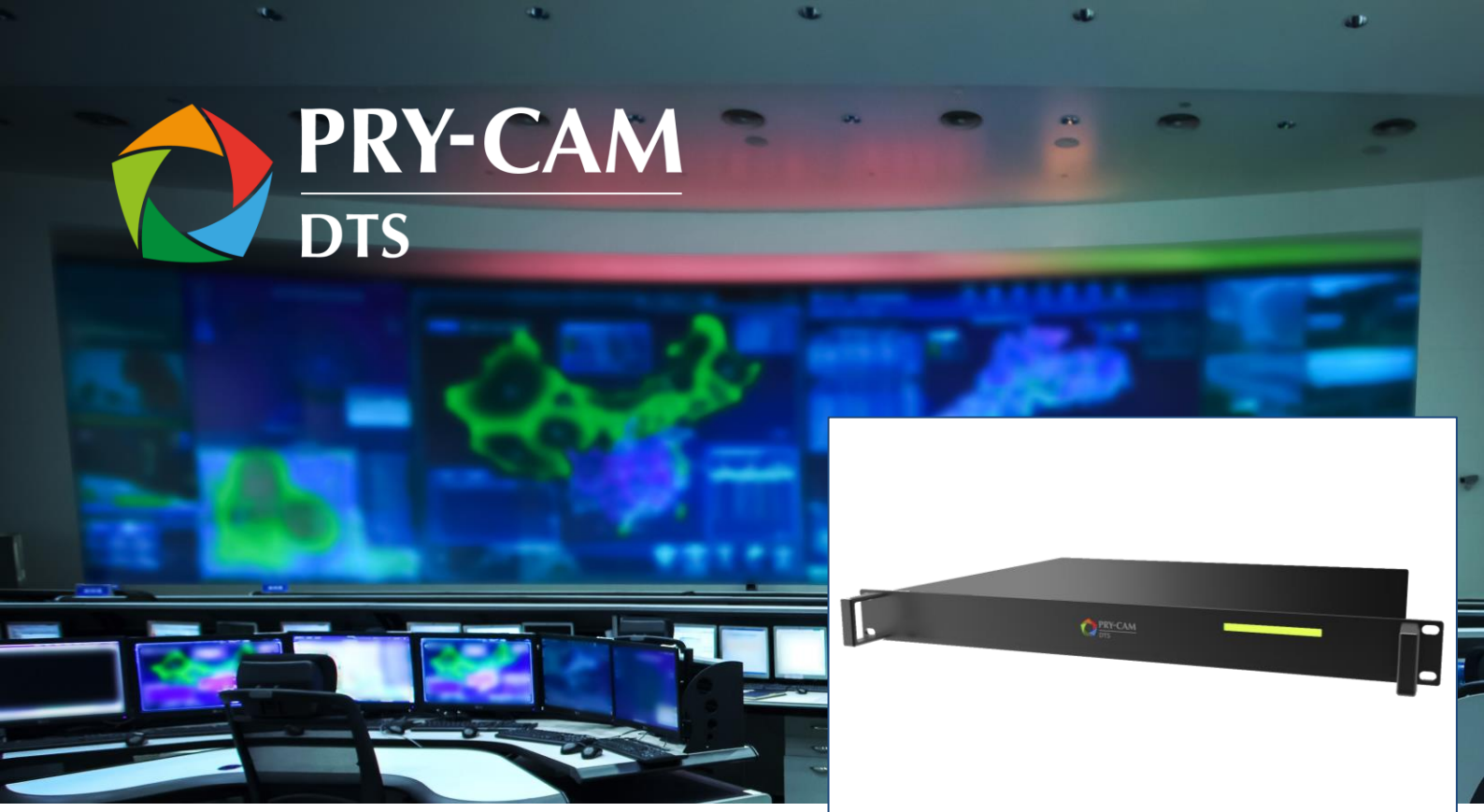
PRY-CAM DTS



PRY-CAM DTS is a fixed optical device using Raman Distributed Thermal Sensing technology for the measurement of the cable temperature along and/or inside a cable.

THE DTS FOR POWER CABLE MONITORING

KEY FEATURES

- The fastest DTS on the market, with shortest measurement time of 250 ms
- Automatic and rapid detection of temperature hotspots, coldspots, fast gradients, and fiber break
- Standard telecommunication fibers are used as sensing element
- Integrated with PRY-CAM Monitoring Platform (access partial discharge, temperature, acoustic, pressure measurement in one place)
- Modular design allowing simultaneous monitoring of multiple cables (no channel multiplexing)
- Several data connectivity modes for remote communication and access
- Very low power consumption: < 5 W
- Online installation (temporary and permanent)

PRY-CAM DTS

PRY-CAM DTS MODULE TECHNICAL SPECIFICATIONS (1/2)

Distributed Temperature Sensing	
Measuring Range	up to 40 km
N. of Optical Channels	1
Spatial Resolution (setting)	1 m – 2 m
Sampling Resolution	0.5 m
Temperature Repeatability (2σ)	See performance table
Shortest Measurement Time	250 ms
Communication Interfaces	
Communication Interfaces	Ethernet TCP/IP (x1)
Communication Protocols (options)	Modbus, DNP3, IEC-60870, IEC-61850
Mechanical Data	
Rack Space	19-inch rack, 1 height unit
Dimensions (H x W x D)	4.4 x 48.2 x 33 cm
Weight	< 5 kg
Electrical Data	
Operating Voltage (DC)	5 V
Mains Voltage (AC)*	AC 110-240 V, 50-60 Hz
Power Consumption (DC)	5 W typ. (10 W max)
Optical Data	
Optical Connector	E2000/APC
Laser Classification	Class 1M (IEC60825-1: 2007), eye-safe wavelength
Fibre Types (options)	- MM: Multimode gradient index 50/125 µm OM2/OM3/OM4, or - SM: Singlemode 9/125 µm, e.g., ITU-T G.652, G.6555 or G.657
Environmental Conditions	
Storage Temperature	- 20 … + 60 °C
Operating Temperature	-10 … + 50 °C
Humidity (non condensing)	≤95 % rel.
Protection class (IEC 60529)	IP51
Conformity to Standards	
Laser Safety	IEC 60825-1, IEC 60825-2
Electrical Safety	IEC/EN 61010-1, UL/CSA 61010-1
Electromagnetic Compatibility	IEC/EN 61326-1,2-2, 2-6; IEC/EN 61000-3-2, 3-3

* DC power supply is available upon request

PRY-CAM DTS

PRY-CAM DTS MODULE TECHNICAL SPECIFICATIONS (2/2)

Performance Table*				
Distance (km)	Temperature Repeatability, 2σ (°C)			
	Measurement Time: 1 minute		Measurement Time: 5 minutes	
	SM	MM	SM	MM
5	1.3	0.4	0.6	0.2
10	1.8	0.5	0.8	0.2
15	2.3	0.8	1.1	0.3
20	3.5	0.9	1.6	0.4
25	4.7	1.3	2.1	0.6
30	6.1	1.8	2.7	0.8

***Measurement Parameters**

Spatial Resolution (setting): 1 m
Spatial Sampling: 0.5 m
SM: Prysmian BendBright™ A1 singlemode fibre
MM: Prysmian BendBright™ OM2 multimode fibre

Measurement uncertainty is ± 0.1 °C.

Parameters' definitions and measurement methods are in accordance with SEAFOM MSP-01.

DTS performances parameters are interdependent. The performance table is to be considered as an example under the measurement settings specified above. DTS performances are to be evaluated on a project basis.