

Release of new TW-COTDR interrogator model NEUBRESCOPE NBX-7035 With Improved Function and Long-term Reliability to Reflect On-site Needs

Neubrex Co., Ltd. is pleased to announce the release of its latest optical interrogator, the NEUBRESCOPE NBX-7035, available from August 2025.

This cutting-edge instrument is the successor to Neubrex flagship model, the NEUBRESCOPE NBX-7031, which featured the patented TW-COTDR and BOTDR/A technologies. Since its debut over 13 years ago, the NBX-7031 has served users worldwide across a broad spectrum of distributed sensing applications—from structural health monitoring and geotechnics to oil and gas exploration and nuclear waste disposal.

The NBX-7035 advances Neubrex’s patented hybrid technology even further, offering the following enhanced features and improvements:

1. Extended Measurement Range – Up to 80 km

Refinements in optical unit control and signal processing have tripled the measurement distance—from 27 km to 80 km. The TW-COTDR method maintains the highest spatial resolution of 5 cm.

2. PSP-BOTDR for High-Precision, Single-End Fiber Access

The traditional requirement for dual-end (closed-loop) fiber access in high-resolution Brillouin measurements has been eliminated. The new PSP-BOTDR method replaces PPP-BOTDA, enabling absolute strain measurements with a resolution of up to 10 cm—using only a single fiber end. This significantly simplifies practical deployment scenarios, allowing for more flexible system design without compromising precision.

3. Enhanced Long-Term Reliability

A newly developed laser calibration system offers improved control over absolute optical frequency, contributing to long-term laser stability. This contributes to long-term laser stability, and hence reliability in long-term distributed sensing monitoring.

4. Upgraded Software & Communication Performance

Control and communication modules have been fully redesigned using the latest technologies. The popular NEUBRESCOPE software now supports higher-speed internal communication, enabling fast and efficient processing, especially beneficial for long-range measurements.

Functionality comparison between NBX-7031 and NBX-7035 models

Function		Old model NBX-7031	New model NBX-7035
General Function		TW-COTDR PPP-BOTDA BOTDR COTDR	TW-COTDR PSP-BOTDR BOTDR COTDR
Maximum measurement distance		27 km	80 km
Finest spatial resolution	Rayleigh	2 cm	5 cm
	Brillouin	50 cm	10 cm
Dimensions / Weight		W45 D48 H29cm 30kg	W45 D65 H29cm 35kg

* Brillouin shows a single-ended index.



NEUBRESCOPE NBX-7035



NBX-Prime (optional) enables building a monitoring system for data processing, visualization, and data management.

Sales information

Please contact us for details about delivery times and prices.

The current model NBX-7031, for the time being, will be available as a special order product.

About Us

Neubrex was founded in 2002 in Osaka, Japan, as a spin-off from Osaka University.

Company, a worldwide leader and leading innovator for Distributed Fiber Optic Sensing (DFOS) solutions, providing cutting-edge monitoring systems for infrastructure and industrial applications. With an emphasis on innovation, reliability and sustainability. With offices in Japan, the United States, and Switzerland, company serves a diverse global clientele, across all industries, including operators in the transportation, energy and industrial sectors.

Neubrex delivers unmatched performance, reliability, optical power delivery, measurement versatility, and technical scalability in distributed fiber optic sensor systems. Critical infrastructure and industrial process operators worldwide trust in Neubrex's equipment, systems, and services. Our technology is applied on roads, bridges, tunnels, nuclear waste storage facilities, nuclear power plants, oil & gas fields, and geothermal system wells while meeting stringent requirements and objectives.

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