PROCESS SPECTROMETERS

T-Trace Edge

Multichannel process spectrometer with embedded computing

T-Trace Edge combines the T-Trace multichannel optical engine with a ruggedised industrial PC in a single IP54 housing. Calibration, colour and chemometric models run on board, next to the line, and results go straight to your PLC or SCADA over industrial Ethernet – no external computer needed.



1 – 8	On-board	M12	24 V	IP54
Synchronous channels	Windows 10 IoT PC	Industrial Ethernet	PLC trigger I/O	Aluminium housing

Key features

- Embedded Intel N97 PC, 8 GB RAM, 250 GB SSD
- Local execution of models and data logging
- Native CIE L*a*b*, ΔE and spectral pre-processing
- X-coded M12 industrial Ethernet
- Opto-coupled 0/24 V hardware trigger
- Direct control of 2 T-Light sources
- Up to 1,800 spectra/s (single channel)
- Customer application hosting

Integration

PLC / SCADA
Designed for direct connection to automation systems.

T-Light
M8 connectors for power, control and synchronised triggering.

Fibres
SMA-905 / FC-PC fibres assembled and supplied by GoyaLab.

Typical applications

In-line colour control · Real-time prediction · Sorting & classification · Food & agriculture · Coatings & films · Pharma PAT

OPTICAL	
Channels	1 to 8 simultaneous (no mechanical multiplexing)
Slit height	3 mm (multichannel)
Optical input	SMA-905 (1 channel) · FC-PC (2 – 8 channels)
Slit width	25 µm standard · 70 or 150 µm
Resolution (VIS)	< 1.5 / < 3 / < 10 nm (25 / 70 / 150 µm)
Sensor	Sony IMX676 monochrome CMOS (VIS)

ACQUISITION	
Single channel	up to 1,800 spectra/s
8 channels	up to 80 acq/s · 640 spectra/s
Integration time	100 µs – 10 s

EMBEDDED COMPUTING	
Processor	Intel N97, 4 cores, up to 3.6 GHz
Memory	8 GB RAM · 250 GB M.2 SSD
OS	Windows 10 IoT Enterprise LTSC 64-bit

INTERFACES	
Network	M12 X-coded industrial Ethernet
Power	24 VDC, M12 A-coded
Process I/O	Opto-coupled 0/24 V trigger
Light control	2 T-Light (M8)
Software	SpectroLab + API
Data formats	.txt · .csv · .spc

MECHANICAL	
Dimensions	226 × 185 × 58 mm
Weight	1 kg
Protection	IP54, conduction cooling via base plate

Spectral versions

Model	Range
T-Trace Edge VIS	380 – 780 nm
T-Trace Edge VIS-NIR	400 – 1000 nm
T-Trace Edge NIR	700 – 1100 nm
T-Trace Edge SWIR	900 – 1700 nm

Ordering information

AR00191 T-Trace Edge VIS

AR00192 T-Trace Edge VIS-NIR

AR00193 T-Trace Edge NIR

AR00194 T-Trace Edge SWIR

Part numbers for information – please confirm with GoyaLab when ordering.

In use



T-Trace Edge with T-Light sources

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