S232-FO | S485-FO
SETH-FO | SCAN-FO

FIBER OPTIC CONVERTERS

Highlights

- **High-speed communication**
- **Separation between power and data lines not necessary**
- **Protection against electrical discharge**
- **Easier and faster network diagnostic**
- **Real-time data transmission**
- **Long time lasting communication medium**
- **Sistance extension**
- **Total noise immunity**

SENECA fiber optic converters - S232, S485, SETH, SCAN Series – offer the possibility to extend fiber optic to any type of network / bus (LAN / Ethernet, CAN, serial) at the same time.

They also ensure high levels of security and reliability. The modules make it possible to use both the single mode and multi-mode fiber, ensuring a reliable and very high speed communication.
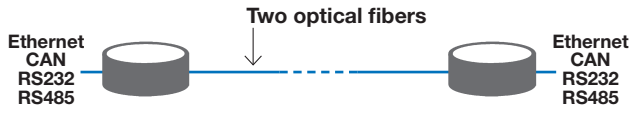
Fiber optic applications include from power plants, telecommunications and control systems, intelligent transportation systems.
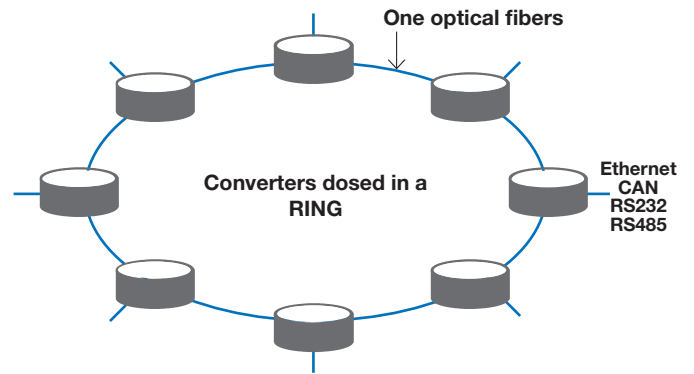
SENECA
www.seneca.it
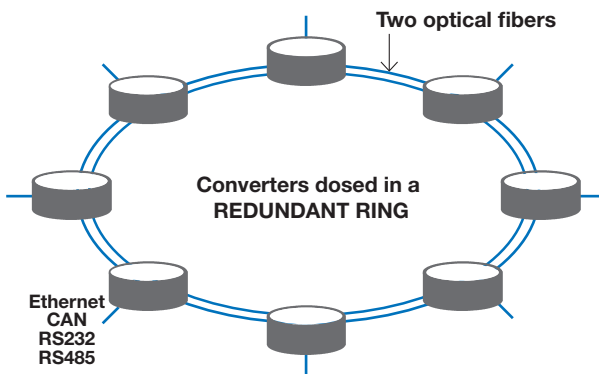
CONNECTION TOPOLOGIES
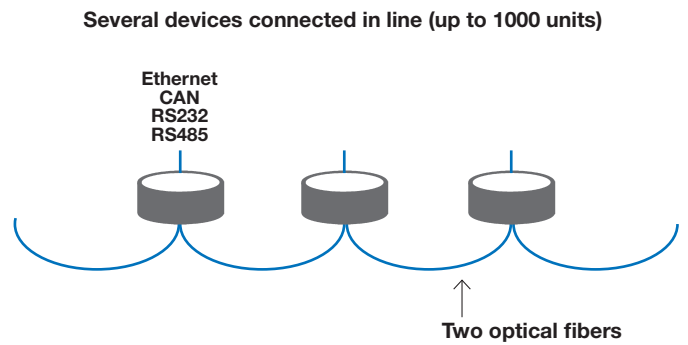
1. POINT TO POINT (LINKED DIRECTLY)

Two optical fibers

Ethernet
CAN
RS232
RS485

Ethernet
CAN
RS232
RS485

2. RING (SINGLE LOOP)

One optical fibers

Converters dosed in a
RING

Ethernet
CAN
RS232
RS485

3. REDUNDANT RING (DOUBLE LOOP)

Two optical fibers

Converters dosed in a
REDUNDANT RING

Ethernet
CAN
RS232
RS485

4. MULTI-DROP (IN-LINE)

Several devices connected in line (up to 1000 units)
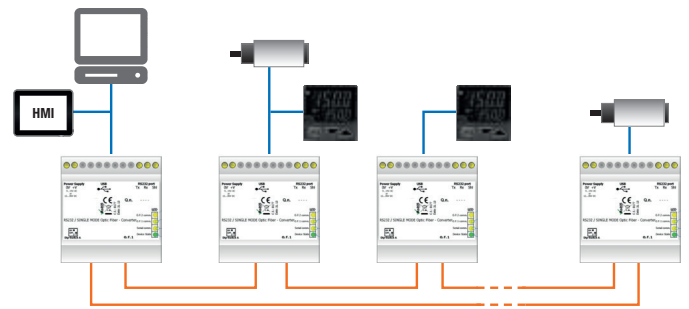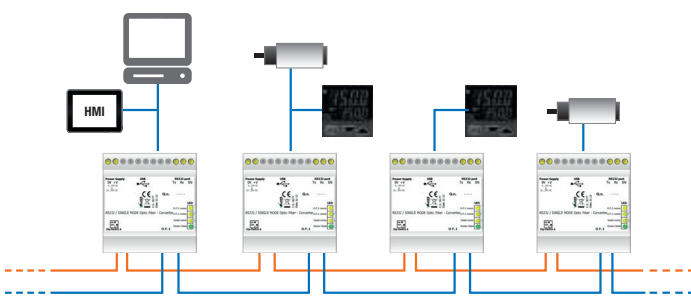
Ethernet
CAN
RS232
RS485

Two optical fibers

CONNECTION MODES

POINT TO POINT

HMI

SINGLE LOOP

HMI

MULTI-DROP

HMI

DOUBLE LOOP

HMI
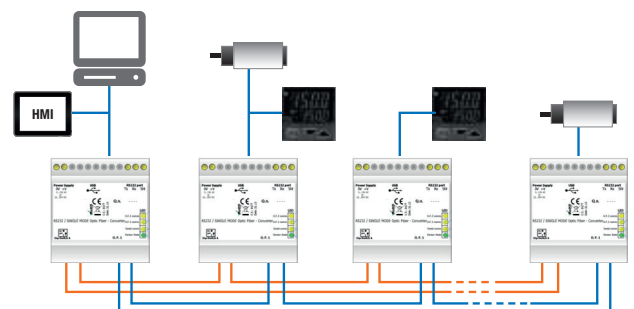
	SERIAL CONVERTERS		BUS CONVERTERS	
	S232-FO	**S485-FO**	**SETH-FO**	**SCAN-FO**
	RS232 - single / multi mode fiber, single / double loop converter	RS485 - single / multi mode fiber, single / double loop converter	Ethernet - single / multi mode fiber, single / double loop converter	CAN - single / multi mode fiber, single / double loop converter
GENERAL DATA				
Power Supply	12..35 Vdc; 8..24 Vac	12..35 Vdc; 8..24 Vac	12..35 Vdc; 8..24 Vac	12..35 Vdc; 8..24 Vac
Max consumption @24V	4 W	4 W	4 W	4 W
Isolation	4 kV @ 3 ways	4 kV @ 3 ways	4 kV @ 3 ways	4 kV @ 3 ways
Status indicators	Fiber optic communication, serial communication, device status	Fiber optic communication, serial communication, device status	Fiber optic communication, Ethernet communication, device status	Fiber optic communication, CAN communication, device status
Operating temperature	-40..+85°C	-40..+85°C	-40..+85°C	-40..+85°C
Dimension (lxhxp)	71 x 95 x 60 mm	71 x 95 x 60 mm	71 x 95 x 60 mm	71 x 95 x 60 mm
Weight	200 g	200 g	200 g	200 g
Enclosure	PVC, white	PVC, white	PVC, white	PVC, white
Mounting	DIN Rail (DIN 462777)	DIN Rail (DIN 462777)	DIN Rail (DIN 462777)	DIN Rail (DIN 462777)
Programming	Software COMPOSITOR (S232-FO-MONO) DIP Switch (S232-FO-MULTI)	Software COMPOSITOR (S485-FO-MONO) DIP Switch (S485-FO-MULTI)	Software COMPOSITOR	Software COMPOSITOR
Self-diagnostic	Yes	Yes	Yes	Yes
Conformity	CE	CE	CE	CE
Norms	EN 61000-6-4, EN 61000-6-2	EN 61000-6-4, EN 61000-6-2	EN 61000-6-4, EN 61000-6-2	EN 61000-6-4, EN 61000-6-2
COMMUNICATION				
Communication ports	Nr 1 RS232 optoisolated	Nr 1 RS232 optoisolated	Nr 1 Ethernet port, RJ45 100 Mbps, cat.7E cable	Nr 1 CAN port
Topology	Single Loop (S232-SL- …) Double Loop (S232-DL- …)	Single Loop (S485-SL- …) Double Loop (S485-DL- …)	Single Loop (SETH-SL- …) Double Loop (SETH-DL- …)	Single Loop (SCAN-SL-…) Double Loop (SCAN-DL- …)
Max serial converters	1.000	1.000	1.000	1.000
Max independent networks	6	6	6	6
Fiber optic / connectors	Single-mode, LC connectors (S232-FO-MONO) Multi-mode (62,5/125 o 50/125 μm), ST/ST connectors (S232-FO-MULTI)	Single-mode, LC connectors (S485-FO-MONO) Multi-mode (62,5/125 o 50/125 μm), ST/ST connectors (S485-FO-MULTI)	Single-mode, LC connectors (SETH-FO-MONO) Multi-mode, LC connectors (SETH-FO-MULTI)	Single-mode, LC connectors (SCAN-FO-MONO) Multi-mode, LC connectors (SCAN-FO-MULTI)
Max distance	10 km (S232-FO-MONO) 2 km (S232-FO-MULTI)	10 km (S232-FO-MONO) 2 km (S232-FO-MULTI)	10 km (SETH-FO-MONO) 500 m (SETH-FO-MULTI)	10 km (SCAN-FO-MONO) 500 m (SCAN-FO-MULTI)
Interfaces & protocols	ModBUS RTU,seamless communication	ModBUS RTU, seamless communication	Ethernet, ModBUS TCP-IP, seamless communication	CAN (CAN 2.0, CANopen), seamless communication
Speed	From 1.200 to 115.200 bps	From 1.200 to 115.200 bps	10 / 100 MHz	From 5 kHz to 1 MHz

Technical data and diagrams reported in this document are proximative and not binding.

SOFTWARE TOOL
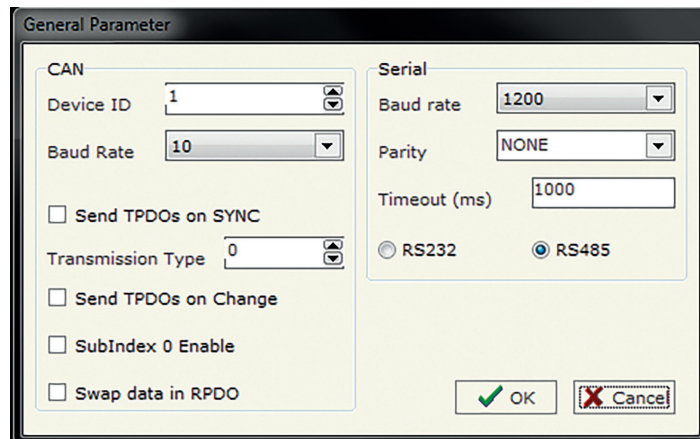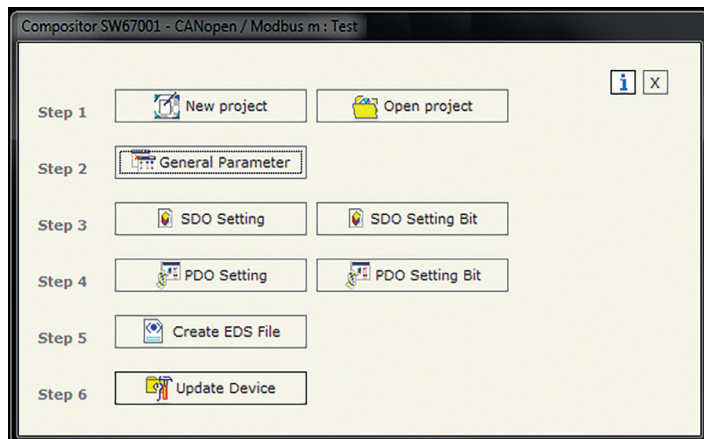
Through software tool "COMPOSITOR" available by www.seneca.it it is possible to create projects configuration and network parameters, identify devices on the network and their connections. Besides performing diagnostics and monitoring networks, diagnostic registers are easily accessible from SCADA and management software.

ORDER CODE	
SERIAL CONVERTERS	
S232-FO-MONO-SL	RS232 - single mode fiber, single loop converter
S232-FO-MONO-DL	RS232 - single mode fiber, double loop converter
S485-FO-MONO-SL	RS485 - single mode fiber, single loop converter
S485-FO-MONO-DL	RS485 single mode fiber, double loop converter
S232-FO-MULTI-SL	Multidrop fiber optic - RS485 double loop converter
S232-FO-MULTI-DL	Multidrop fiber optic - RS485 single loop converter
S485-FO-MULTI-SL	Multidrop fiber optic - RS232 single loop converter
S485-FO-MULTI-DL	Multidrop fiber optic - RS232 double loop converter
ETHERNET CONVERTERS	
SETH-FO-MONO-SL	Ethernet - single mode fiber, single loop converter
SETH-FO-MONO-DL	Ethernet - single mode fiber, dobule loop converter
SETH-FO-MULTI-SL	Ethernet - multimode fiber, single loop converter
SETH-FO-MULTI-DL	Ethernet - multimode fiber, double loop converter
CAN CONVERTERS	
SCAN-FO-MONO-SL	CAN - single mode fiber, single loop converter
SCAN-FO-MONO-DL	CAN - single mode fiber, double loop converter
SCAN-FO-MULTI-SL	CAN - multimode fiber, single loop converter
SCAN-FO-MULTI-DL	CAN - multimode fiber, double loop converter
CABLES	
CU-A-MINIB-1	USB-A Mini USB-B 5 P plug cable, 1 mt
CU-A-MINIB-2	USB-A Mini USB-B 5 P plug cable, 2 mt
CE-RJ45-RJ45-C	Crossover Ethernet cable (RJ45-RJ45)
CE-RJ45-RJ45-R	Straight-thru Ethernet cable (RJ45-RJ45)
SOFTWARE	
COMPOSITOR	Test and programming toolkit for fiber optic converters
FO TEST	Fiber optics automatic test software