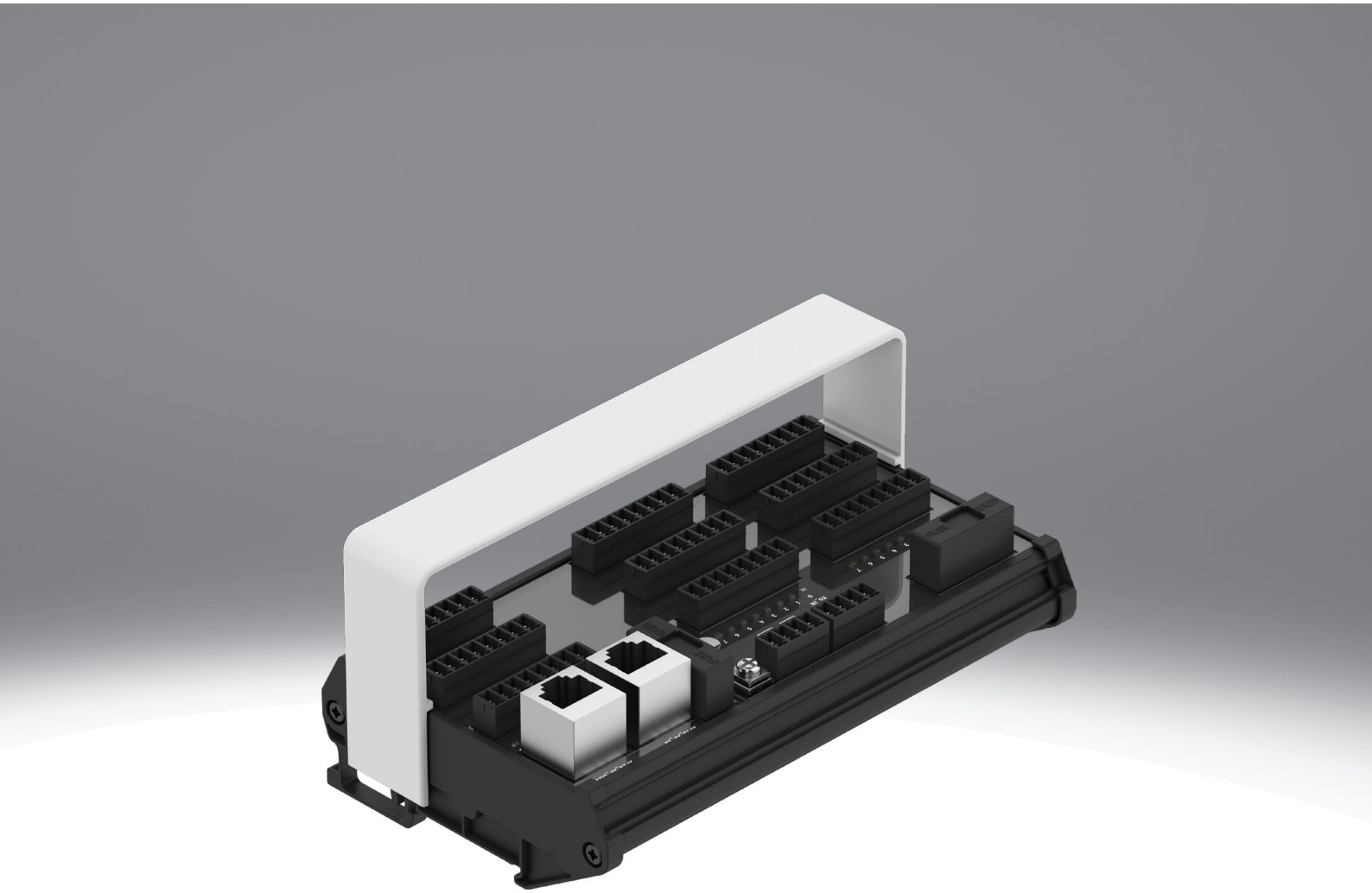
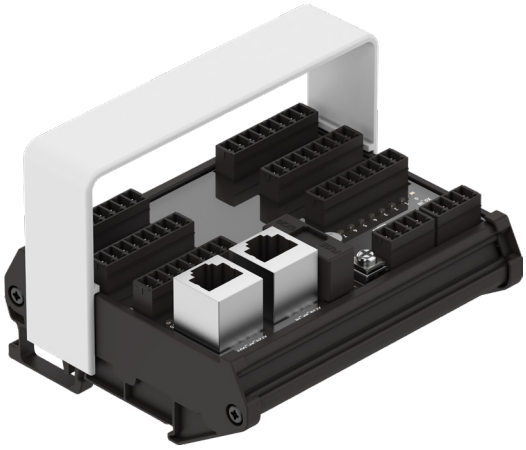
Remote I/O system CPX-AP-L



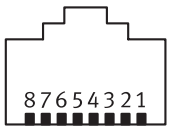
Datasheet

General technical data – Digital 16-way input modules



Protocol	AP
Number of inputs	16
Max. address volume, inputs	2 Byte
Diagnostics via LED	Diagnostics per module; Status per channel
Diagnostics per internal communication	Short circuit/overload in sensor supply; Electronics/sensors overvoltage; Electronics/sensors undervoltage
Reverse polarity protection	yes
Max. cable length	30 m inputs; 50 m system communication
Note on max. cable length	Power supply according to nominal voltage

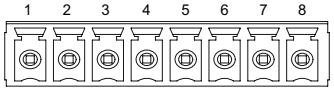
Technical data – Communication interface, digital 16-way input modules



Communication interface, protocol	AP
Communication interface, function	System communication XF10 IN / XF20 OUT
Communication interface, connection type	2x socket
Communication interface, connection technology	RJ45
Communication interface, number of pins/cores	8
Communication interface, screened	yes

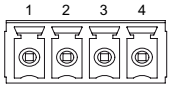
Datasheet

Technical data – Interfaces input/output modules



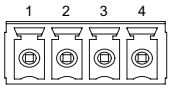
Electrical connection input, function	Digital input
Electrical connection input, connection type	6 x socket
Electrical connection input, connector system	Push-pull according to IEC 61984
Electrical connection input, number of connections/cores	8
Switching logic for inputs	NPN (negative switching) 2-wire sensors to IEC 61131-2 3-wire sensors to IEC 61131-2
Characteristic for inputs	To IEC 61131-2, type 3
Switching level	Signal 0: (PS - 5 V) to PS Signal 1: 0 V to (PS - 11 V)
Input debounce time	0.1 ms; 3 ms (standard); 10 ms; 20 ms

Technical data – Interface power supply – Digital 16-way input modules



Power supply, function	Incoming electronics/sensors and load
Power supply, connection type	Socket
power supply, connection system	Push-pull according to IEC 61984
Power supply, number of pins/wires	4

Technical data – Interface power transmission – Digital 16-way input modules



Power transmission, function	Outgoing electronics/sensors and load
Power transmission, connection type	Socket
Power transmission, connection technology	Push-pull according to IEC 61984
Power transmission, number of pins/wires	4

Datasheet

Technical data – Electrics – Digital 16-way input modules	
Nominal operating voltage DC	24 V
Nominal DC operating voltage, electronics/sensors	24 V
Permissible voltage fluctuations for electronics/sensors	± 25%
Note regarding operating voltage	SELV/PELV fixed power supplies required; Note voltage drop
Power failure bridging	10 ms
Max. power supply	2 x 4 A (external fuse required)
Intrinsic current consumption at nominal operating voltage for electronics/sensors	Typically 32 mA
Max. residual current of inputs per module	4 A
Electrical isolation of inputs between channels	no
Electrical isolation of inputs between channel – internal communication	No
Fuse protection of inputs (short circuit)	Glass cartridge fuse
Overvoltage category	II
Pollution degree	2

Technical data – Mechanics – Digital 16-way input modules	
Type of mounting	With H-rail
Product weight	145 g
Dimensions (W x L x H)	90 mm x 106 mm x 70 mm

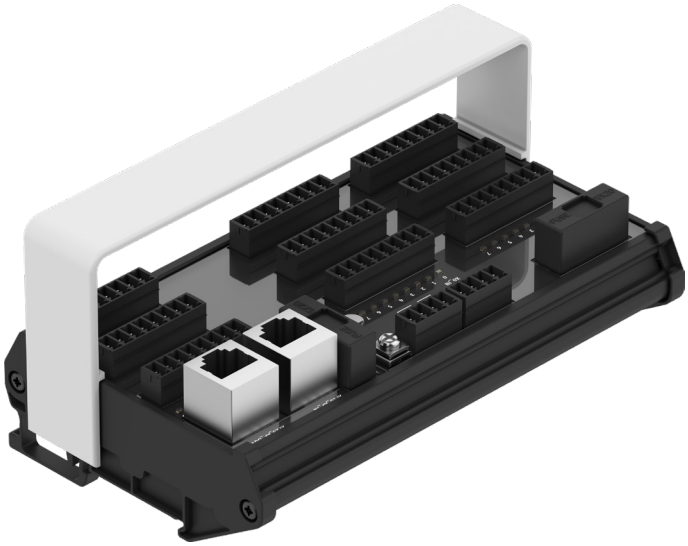
Materials – Digital 16-way input modules	
Material housing	PA66; PVC
Note on materials	RoHS-compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364 zone III
Cleanroom suitability, measured according to ISO 14644-14	Element installed statically, no meaningful evaluation possible according to ISO 14644-1

Operation and environmental conditions – Digital 16-way input modules	
Ambient temperature	-20 ... 50°C
Storage temperature	-40 ... 70°C
Corrosion resistance class CRC [1]	0 - No corrosion stress
Relative air humidity	5 - 95%, Non-condensing
Vibration resistance	Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27
CE mark (see declaration of conformity) [2]	To EU EMC Directive; In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)[3]	To UK instructions for EMC; To UK RoHS instructions
KC mark	KC-EMV
Approval	RCM trademark
Degree of protection	IP20
KC Approval No. EMC/Radio	FTO-KC-2025-1001

1) More information www.festo.com/x/topic/crc
2) More information www.festo.com/catalogue/... Support/Downloads.
3) More information www.festo.com/catalogue/... Support/Downloads.

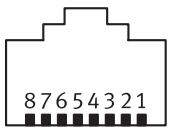
Datasheet

General technical data – Digital 16-way input/8-way output modules



Protocol	AP
Number of inputs	16
Number of outputs	8
Max. address volume, inputs	2 Byte
Max. address volume, outputs	1 Byte
Diagnostics via LED	Diagnostics per module; Load power supply; Status per channel
Diagnostics per internal communication	Load switch-off; Short-circuit/overload in output signal; Short circuit/overload in sensor supply; Electronics/sensors overvoltage; Load overvoltage; Electronics/sensors undervoltage; Load undervoltage
Reverse polarity protection	yes
Max. cable length	30 m outputs; 30 m inputs; 50 m system communication
Note on max. cable length	Power supply according to nominal voltage

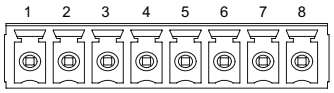
Technical data – Communication interface – Digital 16-way input/8-way output modules



Communication interface, protocol	AP
Communication interface, function	System communication XF10 IN / XF20 OUT
Communication interface, connection type	2x socket
Communication interface, connection technology	RJ45
Communication interface, number of pins/cores	8
Communication interface, screened	yes

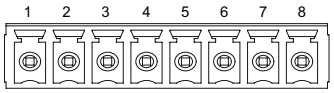
Datasheet

Technical data – Interface electrical connection input, digital 16-way input/8-way output modules



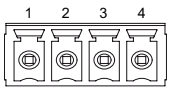
Electrical connection input, function	Digital input
Electrical connection input, connection type	6 x socket
Electrical connection input, connector system	Push-pull according to IEC 61984
Electrical connection input, number of connections/cores	8
Switching logic for inputs	NPN (negative switching) 2-wire sensors to IEC 61131-2 3-wire sensors to IEC 61131-2
Characteristic for inputs	To IEC 61131-2, type 3
Switching level	Signal 0: (PS - 5 V) to PS Signal 1: 0 V to (PS - 11 V)
Input debounce time	0.1 ms; 3 ms (standard); 10 ms; 20 ms

Technical data – Interface electrical connection output, digital 16-way input/8-way output modules



Electrical connection output, function	Digital output
Electrical connection output, connection type	3 x socket
Electrical connection output, connector system	Push-pull according to IEC 61984
Switching logic for outputs	NPN (negative switching)
Characteristic for outputs	According to IEC 61131-2, type 0.5
Output delay with ohmic load	Signal change 0->1: < 200 µs Signal change 1->0: < 200 µs

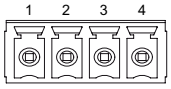
Technical data – Interface power supply – Digital 16-way input/8-way output modules



Power supply, function	Incoming electronics/sensors and load
Power supply, connection type	Socket
power supply, connection system	Push-pull according to IEC 61984
Power supply, number of pins/wires	4

Datasheet

Technical data – Interface power transmission – Digital 16-way input/8-way output modules



Power transmission, function	Outgoing electronics/sensors and load
Power transmission, connection type	Socket
Power transmission, connection technology	Push-pull according to IEC 61984
Power transmission, number of pins/wires	4

Technical data – Electrics – digital 16-way input/8-way output modules

Nominal operating voltage DC	24 V
Nominal DC operating voltage, electronics/sensors	24 V
Nominal operating voltage DC of load	24 V
Permissible voltage fluctuations for electronics/sensors	± 25%
Permissible voltage fluctuation of load	± 25%
Note regarding operating voltage	SELV/PELV fixed power supplies required; Note voltage drop
Power failure bridging	10 ms
Max. power supply	2 x 4 A (external fuse required)
Intrinsic current consumption at nominal operating voltage for electronics/sensors	Typically 32 mA
Intrinsic current consumption at nominal operating voltage load	Typically 11 mA
Max. power supply per channel	0.5 A
Max. residual current of inputs per module	4 A
Max. residual current outputs per module	4 A
Electrical isolation of inputs between channels	no
Electrical isolation of inputs between channel – internal communication	No
Electrical isolation of outputs between channels	no
Electrical isolation of outputs between channel - internal communication	yes
Fuse protection of inputs (short circuit)	Glass cartridge fuse
Overvoltage category	II
Pollution degree	2

Technical data – Mechanics – Digital 16-way input/8-way output modules

Type of mounting	With H-rail
Product weight	200 g
Dimensions (W x L x H)	90 mm x 152 mm x 70 mm

Datasheet

Materials – Digital 16-way input/8-way output modules	
Material housing	PA66; PVC
Note on materials	RoHS-compliant; Free of halogen
LABS (PWIS) conformity	VDMA24364 zone III
Cleanroom suitability, measured according to ISO 14644-14	Element installed statically, no meaningful evaluation possible according to ISO 14644-1

Operating and environmental conditions – Digital 16-way input/8-way output modules	
Ambient temperature	-20 ... 50°C
Storage temperature	-40 ... 70°C
Corrosion resistance class CRC [1]	0 - No corrosion stress
Relative air humidity	5 - 95%, Non-condensing
Vibration resistance	Transport application test with severity level 1 to FN 942017-4 and EN 60068-2-6
Shock resistance	Shock test with severity level 1 to FN 942017-5 and EN 60068-2-27
CE mark (see declaration of conformity) [2]	To EU EMC Directive; In accordance with EU RoHS Directive
UKCA marking (see declaration of conformity)[3]	To UK instructions for EMC; To UK RoHS instructions
KC mark	KC-EMV
Approval	RCM trademark
Degree of protection	IP20

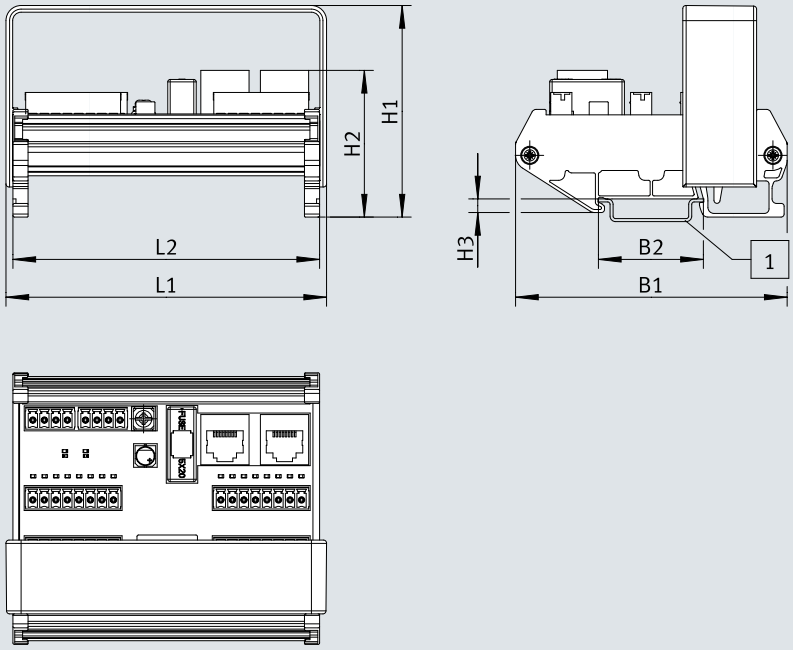
1) More information www.festo.com/x/topic/crc

2) More information www.festo.com/catalogue/... Support/Downloads.

3) More information www.festo.com/catalogue/... Support/Downloads.

Dimensions

Dimensions – Digital 16-way input modules Download CAD data www.festo.com

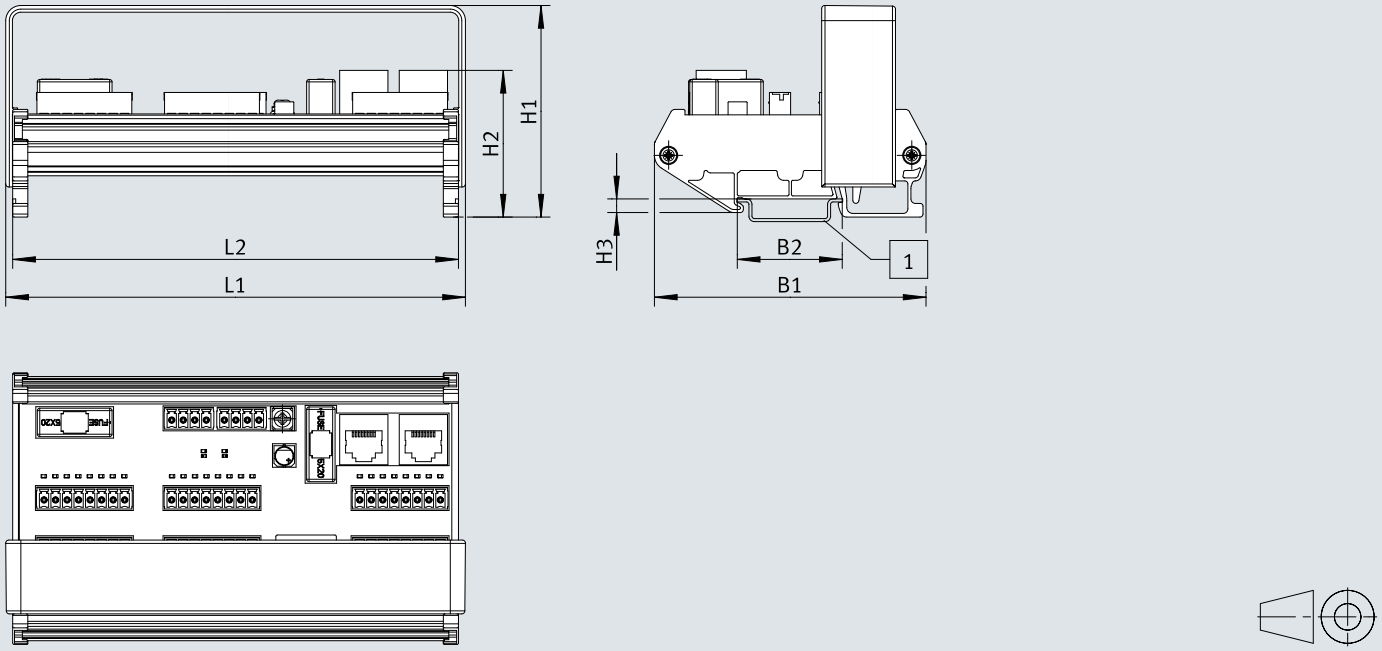


[1] H-rail

	B1	B2	H1	H2	H3	L1	L2
CPX-AP-L-16NDI-PI	89,8	34,4	70	48,5	4,5	106	101,4

Dimensions

Dimensions – Digital 16-way input/8-way output modules Download CAD data www.festo.com

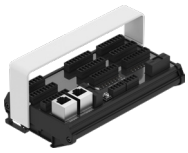


[1] H-rail

	B1	B2	H1	H2	H3	L1	L2
CPX-AP-L-16NDI8NDO-PI	89,8	34,7	70	48,5	4,5	152	147,4

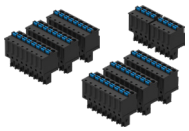
Ordering data

Ordering data – Modules

	Input function module	Number of inputs	Output function module	Number of outputs	Part no.	Type
	Negative digital input	16			**8176326**	**CPX-AP-L-16NDI-PI**
			Negative digital output	8	**8176415**	**CPX-AP-L-16NDI8NDO-PI**

Accessories

Accessories – Push-in connectors

	Electrical connection 2, connector system	Size of pack	Product weight	Part no.	Type
	Spring-loaded terminal	8	51.3 g	**8188242**	**NECC-S-L16G-C1-P8**
		11	73.2 g	**8188241**	**NECC-S-L16G-C1-P11**
	Screw terminal	8	36.8 g	**8188239**	**NECC-S-L16G-C2-P8**
		11	52.6 g	**8188240**	**NECC-S-L16G-C2-P11**

Accessories – Connecting cables

	Electrical connection 1, connection type	Electrical connection 1, connector system	Electrical connection 2, connection type	Electrical connection 2, connector system	Cable length	Part no.	Type
	Plugs	M8x1, D-coded according to EN 61076-2-114	Plugs	RJ45 to IEC 60603-7-3	0.3 m	**8188942**	**NEBC-D8G4-ES-0.3-N-S-R3G4-ET**
					0.5 m	**8188943**	**NEBC-D8G4-ES-0.5-N-S-R3G4-ET**
					1 m	**8188944**	**NEBC-D8G4-ES-1-N-S-R3G4-ET**
					2 m	**8188945**	**NEBC-D8G4-ES-2-N-S-R3G4-ET**
					5 m	**8188946**	**NEBC-D8G4-ES-5-N-S-R3G4-ET**
					7.5 m	**8188947**	**NEBC-D8G4-ES-7.5-N-S-R3G4-ET**
					10 m	**8188948**	**NEBC-D8G4-ES-10-N-S-R3G4-ET**
		RJ45 to IEC 60603-7-3			0.3 m	**8188950**	**NEBC-R3G4-ES-0.3-N-S-R3G4-ET**
					0.5 m	**8188951**	**NEBC-R3G4-ES-0.5-N-S-R3G4-ET**
					1 m	**8188952**	**NEBC-R3G4-ES-1-N-S-R3G4-ET**
					2 m	**8188953**	**NEBC-R3G4-ES-2-N-S-R3G4-ET**
					5 m	**8188954**	**NEBC-R3G4-ES-5-N-S-R3G4-ET**
					7.5 m	**8188955**	**NEBC-R3G4-ES-7.5-N-S-R3G4-ET**
					10 m	**8188956**	**NEBC-R3G4-ES-10-N-S-R3G4-ET**