

Rugged Digital Networks Solutions

Reinforced Infocom Connectors for Harsh Environment

RJ Field - USB Field

Ampheonol

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update



Connecting to people + technology

www.rjfield.com

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Rugged Electronics

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Military Ethernet Switch for harsh environment with industrial EMI compliancy

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Industrial Ethernet Switch for harsh environment

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Field installable

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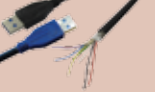
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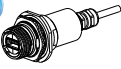
RUGGED ETHERNET SOLUTION SELECTION GUIDE

	Connectors	Series	Indust. Ethernet Spec.	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
F I E L D I N S T A L L A B L E		RJF RB		Reverse Bayonet	Circular	Plastic	N/A	Industrial & Telecom	10
		RJF544	IEC 60603-7 variant 12	Push Pull	Circular	Plastic	N/A	Industrial & Telecom	13
		RJF EZ	IEC 60603-7 variant 13	Lever	Rectangular	Plastic	N/A	Industrial & Telecom	15
		RJF	IEC 60603-7 variant 11	Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	17
		RJF Special	IEC 60603-7 variant 11	Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	20
		RJF Receptacles - Plugs with 360° EMI backshells		Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	21
		RJF Environmentally Sealed Transversally Sealed		Bayonet	Circular	Metal	MIL-DTL-26482	Mil/Aero & Industrial	22
		RJF Hermetic Receptacles		Bayonet	Circular	Metal	MIL-DTL-26482	Mil/Aero & Industrial	23
		RJF For big insulation wire up to 1.6mm [0.062 inch]		Bayonet	Circular	Metal	MIL-DTL-26482	Industrial Mil/Aero	24
		RJFTV		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	26
		RJF TV Receptacles - Plugs with 360° EMI backshells		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	30
		RJF TV Special Through bulkhead		Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	32
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		RJFTV Hermetic Receptacles		Bayonet or Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	37
		RJFTV For big insulation wire up to 1.6 mm		Bayonet or Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero	38
NEW		RJ45/M12 Adaptors			Circular	Metal		Industrial & Rail Mass Transit	39
		Special RJ45 adaptor for Military & Commercial Aeronautics			Circular	Metal		Industrial & Rail Mass Transit	40

INSTALLABLE	Cables	Series	Indust. Ethernet Spec.	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
		High reliability Cat 5E cable and cordsets						Mil/Aero & Industrial	41
		High reliability Cat 6 cable and cordsets						Mil/Aero & Industrial	42
		High reliability Cat 6A cable and cordsets						Mil/Aero & Industrial	43
ASSEMBLIES	Connectors	Series	Indust. Ethernet Spec.	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
		RJ45/M12 Railway Cable Solution		Bayonet	Circular	Metal	MIL-DTL-26482	Industrial & Rail Mass Transit	46
		Jumper		Thread	Circular	Metal	MIL-DTL-38999 Series III	Rail Mass Transit	47
RUGGED	Connectors	Series	Sealing	Type	# of ports	Specification	Prime Market	Page	
		RES-GMC Media converter with Expanded Beam Tech.	IP67/68	Unmanaged	2 Gb ports		Mil/Aero	50	
		RES-GMC Media converter with Butt Joint Fiber connect.	IP67/68	Unmanaged	2 or 4 Gb ports		Mil/Aero	52	
		RES-GMC-1M-FORC Media converter with Remote Control	IP67/68	Unmanaged	1 Gb port + 1 Fiber port		Mil/Aero	54	
		RES-SCE-AC-8US miniature portable switch	IP67/68	Unmanaged	8 Fast ports		Mil/Aero	56	
		RES-SCE-AC-8MG miniature portable switch	IP67/68	Managed	8 Gb ports		Mil/Aero	58	
		RESMLAC-8US-CAPS military Ethernet switch MIL-DTL-38999 connectors	IP67/68	Unmanaged	8 Fast ports		Mil/Aero	60	
		RJSMLAC-8UG-CAPS military Ethernet switch MIL-DTL-38999 connectors	IP67/68	Unmanaged	8 Gb ports		Mil/Aero	62	
		RJSMLAC-8MG-CAPS military Ethernet switch RJFTV connectors	IP67/68	Managed	8 Gb ports		Mil/Aero	64	
		RESMLAC-8MG-CAPS military Ethernet switch MIL-DTL-38999 connectors	IP67/68	Managed	8 Gb ports		Mil/Aero	66	
		RESMLAC-8MG-CAPS-F35 military Ethernet switch MIL-DTL-38999 connectors	IP67/68	Managed	8 Gb ports		Mil/Aero	68	
		RESMLAC-28MG military Ethernet switch	IP67/68	Managed	24 Gb + 4 combo 10G ports		Mil/Aero	70	
		RJSML-8US1 & RJSML-8UG1 military Ethernet switch	IP67/68	Unmanaged	8 Gb ports		Mil/Aero	73	
		RJSML-MG7F3G military Ethernet switch	IP67/68	Managed	7 fast + 3 Gb ports		Mil/Aero	77	
		RJSPC industrial Ethernet switch <i>For ATEX version, see page 138</i>	IP67/68	Unmanaged	5 fast ports		Industrial	81	

RUGGED USB SOLUTION SELECTION GUIDE

	Connectors	Series	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
F I E L D I N S T A L L A B L E		USB3FTV (USB-A)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	86
		USB3FTV Transversally Sealed Receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	90
		USB3FTV Hermetic receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	93
		High reliability USB 3.0 Cordsets					Mil/Aero, Rail Mass Transit & Industrial	96
		USBFTV (USB-A)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	97
		USBFTV Transversally Sealed Receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	100
		USBFTV Hermetic receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	102
		USBFTV special Receptacles with 360° EMI backshells	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	103
		Special USB version USB Through Bulkhead	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	104
		USBFTV Stand-Off receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass transit & Industrial	105
		High reliability USB 2.0 Cordsets					Mil/Aero, Rail Mass Transit & Industrial	109
		USBFTV SC Quick release series	Spring Release	Circular	Metal	N/A	Mil/Aero & Industrial	110
		USBFTV (USB-B)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	112
		USBFTV Stand-off receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	115
		USBFTV Transversally Sealed Receptacles	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero, Rail Mass Transit & Industrial	117
		Special USB adaptor for Military & Commercial Aeronautics	Circular	Metal			Aeronautic	120

	Connectors	Series	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
ASSEMBLIES CABLES		USB-A plastic with Self Closing Cap		Circular	Plastic	N/A	Industrial & Telecom	122
		USB B Field Plastic shell Overmolded cordset plug	Thread	Circular	Plastic	N/A	Industrial & Telecom	125
ELECTRONICS RUGGED		Reinforced USBF TV Memory Keys	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & industrial	128
		Reinforced USB Memory Keys	Bayonet	Circular	Metal	N/A	Mil/Aero & Industrial	129
		Reinforced USB 2.0 amplifier	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Industrial	130

RUGGED ATEX ZONE 2 SOLUTION GUIDE

	Connectors	Series	Coupling mechanism	Shape	Material	Specification	Prime Market	Page
ELECTRONICS RUGGED		RJFTVX, USBFTVX RJ11FTVX	IP68	Metal & Plastic			Factory Automation, Video, Oil & Gaz	132
		RJSPCEX	IP68	Plastic	5	X	X	Oil & Gas

OTHER RUGGED SOLUTIONS

	Connectors	Series	Coupling Mechanism	Shape	Material	Specification	Prime Market	Page
FIELD INSTALLABLE		FWFTV (FireWire)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Video	140
		RJ11F (RJ11)	Bayonet	Circular	Metal	MIL-C-26482	MIL/Aero & Industrial	144
		Special RJ11 adaptor for Military & Commercial Aeronautics		Circular	Metal		Aeronautic	146
		MTRJFTV (MTRJ)	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	148
		LC Field	Thread	Circular	Metal	MIL-DTL-38999 Series III	Mil/Aero & Rail Mass Transit	150

NOTES

Handwriting practice lines consisting of 20 horizontal dotted lines.

Rugged Ethernet Solutions



Field installable

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	RJF special receptacles: cable mount inline & PCB tails receptacles	20
NEW	RJF - Receptacles & plugs with 360° EMI backshells	21
NEW	RJF - Environmentally sealed, transversally sealed receptacles.....	22
	RJF - Hermetic receptacles	23
	RJF for big insulation wire up to 1.6 mm [0.062 inch]	24
	Self Closing Cap (SCC) for RJ Field receptacles	25
	RJF TV: metallic circular shell based on MIL-DTL-38999 series III - thread coupling with anti-decoupling device	26
	RJF TV Self Closing Cap (SCC)	29
	RJF TV receptacles and plugs with 360° EMI backshells	30
	RJF TV Through bulkhead receptacles	32
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NEW	RJF TV - Environmentally sealed, Transversally sealed receptacles	36
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NEW	High reliability Cat 6A Ethernet cable & cordsets	43

RJF RB

Ethernet connection system for harsh environment – Industrial Ethernet



IDC Receptacle
CAT 6



PCB Receptacle

RJFRB allows you to use an Ethernet Class D / Cat 5e and Class E / Cat 6 connection for 10 BaseT, 100 BaseTX or 1000 BaseT networks in harsh environments.

With the patented RJStop® system you can use a standard RJ45 cordset in a protective **composite** plug which will protect it from shocks, dust and fluids.

No hazardous on-field cabling and grounding!

Main characteristics

- Sealed against fluids and dust (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field, no tools required
- **Reverse bayonet coupling**
- RJ45 cordset retention in the plug: 70 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 5,5 mm [0.216 in] to 7 mm [0.275 in]

Environmental protection

- Sealing: IP68
- Salt spray > 1000 h
- Fire retardant / Low smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Thermal shock: 5 cycles at - 40°C / +100°C
- Operating temperature: - 40°C / +85°C

Data transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801
Cat6 per TIA/EIA 568B and ClassE per ISO/IEC 11801

Applications

- Telecom equipments
- Video control
- Robotics
- Industrial process control
- CNC machines
- Special machines
- Motion control

Part number code

	RJF RB	7	1RA
Shell type			
6: composite reverse bayonet plug, plastic gland			
7: composite jam nut receptacle			
Back terminations (for receptacles only)			
1: female RJ45			
1RA: right angle female RJ45			
2: RJ45 Cordset			
3U: IDC cat6 - unshielded			
3F: IDC cat6 - partial shielding			
3S: IDC cat6 - 100% shielded			
5: straight PCB			
Cordset length (for receptacles with "2" back termination only)			
03 100BTX: 0.3m [11.81 inches]			
05 100BTX: 0.5m [19.68 inches]			
10 100BTX: 1m [39.37 inches]			
15 100BTX: 1.5m [59.05 inches]			
Remark: cabling configuration → 100 BTX = 568B (Ethernet specification)			

Examples:

- Plug: RJF RB 6
- Receptacle, female RJ45 Back termination: RJF RB 71
- Receptacle, right angle female RJ45 back termination: RJF RB 71RA
- Receptacle, 1,5m [59.05"] RJ45 cordset termination: RJF RB 72 15 100BTX

Plug

- Type 6 shell with plastic gland

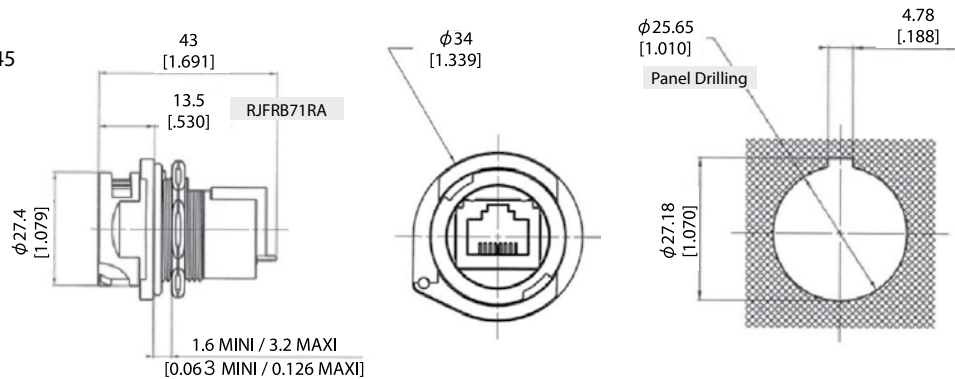


Receptacles

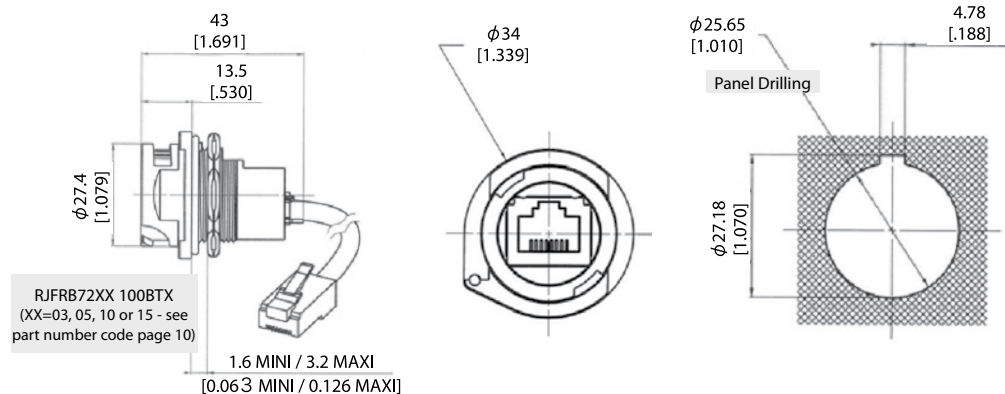
- Type 1: female RJ45
(front mounting)



- Type 1RA: right angle female RJ45
(front mounting)



- Type 2: RJ45 cordset
(front mounting)



- Type 3: IDC CAT 6 termination
(rear mounting)



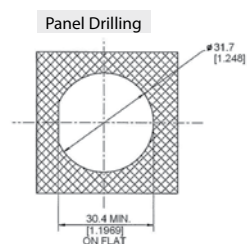
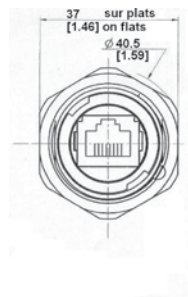
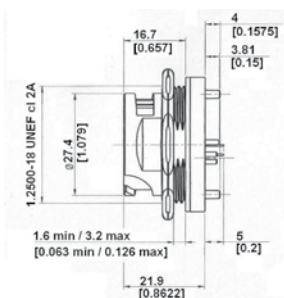
Shielded: RJFRB73S

Unshielded: RJF RB 73U
Partial shielding RJF RB 73F

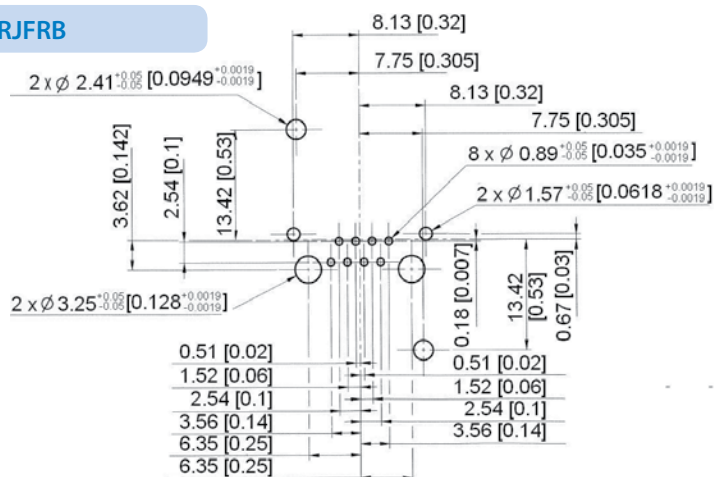
■ Straight PCB termination receptacle:
(rear mounting)



Part number: RJF RB 75



PCB drilling RJFRB



IMPORTANT NOTE

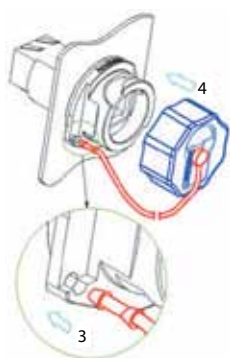
The customer's PCB design will determine the receptacle category.

Assembly instructions

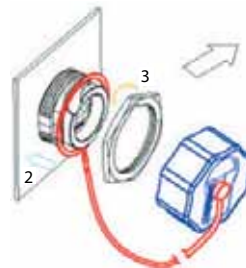


Accessories

■ IP68 Dust caps



RJF RB C7
Cap for receptacles RJFRB71 / 71RA / 72xxx



RJF RB C75
Cap for receptacles RJFRB75 and RJFRB73x

RJF 544

Ethernet connection system for harsh environment – Industrial Ethernet



RJF544 allows you to use an Ethernet Class D / Cat 5e connection for 10 BaseT, 100 Base TX or 1000 BaseT networks in harsh environments.

With the patented RJStop® system you can use a standard RJ45 cordset in a protective **composite** plug which will protect it from shocks, dust and fluids.

No hazardous on-field cabling and grounding !

Applications

- Telecom equipment
- Video control
- Robotics
- Industrial process control
- CNC machines
- Special machines
- Motion control
- Tele-maintenance



Now available with transversal sealing*

*Seal in unmated condition

Main characteristics

- Compliant with IEC 60603-7 variante 12
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Sealed against fluids and dust (IP68)
- **Quick push pull coupling**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Improved EMI Protection
- Compatible with cable diameter from 6 mm [0.236 in] to 13 mm [0.512 in]

Environmental Protection

- Sealing: IP68
- Salt spray > 1000 h
- Fire retardant / Low smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Vibrations: 10 – 500 Hz, 10 g, 3 axes: no discontinuity > 10 nano s.
- Thermal shock: 5 cycles at - 40°C / +100°C
- Operating temperature: - 40°C / +85°C

Data Transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

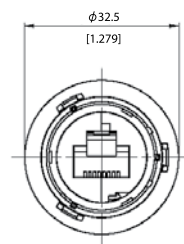
Part number code

	RJF 544	2	2	03 100BTX
Shell type				
6: composite push pull plug, plastic gland				
2: composite square flange receptacle				
2S: composite square flange receptacle transversally sealed				
2M: metallized (Ni) composite square flange receptacle				
2SM: metallized (Ni) composite square flange receptacle transversally sealed				
Back terminations (for receptacles only)				
1: female RJ45				
1RA: right angle female RJ45				
2: RJ45 cordset				
Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand				
03 100BTX: 0.3 meters [11.81 inches]				
05 100BTX: 0.5 meters [19.68 inches]				
10 100BTX: 1 meter [39.37 inches]				
15 100BTX: 1.5 meters [59.05 inches]				
00: 8 tinned holes at the rear of the PCB to solder the cable				
Remark: cabling configuration → 100 BTX = 568B (Ethernet specification)				

- Examples:
- Plug: RJF 544 6
 - Square flange receptacle, female RJ45 back termination: RJF 544 21
 - Metallized square flange receptacle, female RJ45 back termination: RJF 544 2M 1
 - Square flange receptacle, 1,5m [59.05"] 100 BTX cordset termination: RJF 544 22 15 100BTX
 - Square flange receptacle, solder termination: RJF 544 22 00
 - Transversally sealed receptacle female RJ45 back termination: RJF544 2S1

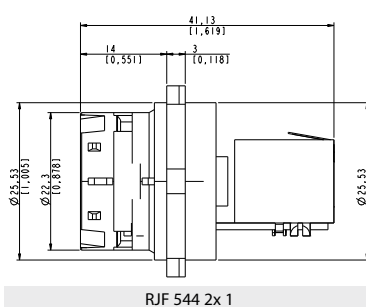
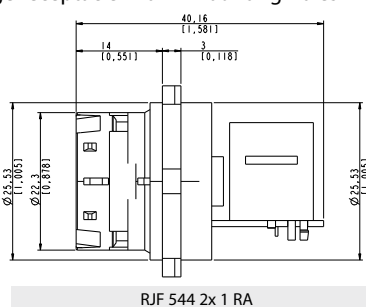
Plug

- Type 6 shell with plastic gland



Receptacle

- Type 2S/2M/2SM shell: square flange receptacle with 4 mounting holes



Panel Drilling
(same as #16 MIL-C-5015)

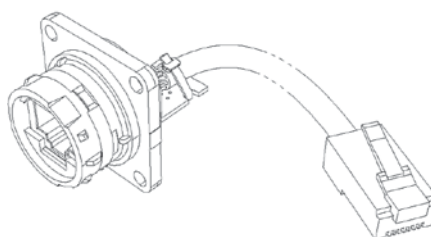
Back terminations



Type1: female RJ45



Type1RA: right angle female RJ45



Type2: RJ45 cordset



Type 2 - 00: solder - 8 tinned holes

Notes: type 2 without RJ45 plug at the end of the cable is also available: consult factory

Accessories

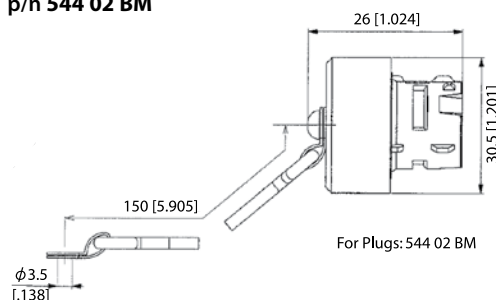
- Rubber IP68 receptacle cap
p/n RJF 544BESC



- Panel gasket
p/n RJF 544 02JE



- IP68 caps for plug
p/n 544 02 BM



- Panel gasket (thickness: 0.6mm [0.039]): p/n RJF 544 02 JE
- Plug Insert removal tool: p/n 5440 OT 02

RJF EZ

Ethernet connection system for harsh environment – Industrial Ethernet



RJFEZ allows you to use an Ethernet Class D / Cat. 5e connection for 10 BaseT, 100 BaseTX or 1000 BaseT networks in harsh environments. With the patented RJStop® system you can use a standard RJ45 cordset in a protective **composite** plug which will protect it from shocks, dust and fluids.

No hazardous on-field cabling and grounding!

Applications

- Telecom equipment
- Video control
- Robotics
- Industrial process control
- CNC machines
- Special machines
- Motion control
- Tele-maintenance

Main characteristics

- Compliant with IEC 60603-7 variante 13
- Sealed against fluids and dust (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- **Quick lever coupling**
- RJ45 cordset retention in the plug: 70 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 5,5 mm [0.216 in] to 7 mm [0.275 in]

Environmental protection

- Sealing: IP68
- Salt spray > 1000 h
- Fire retardant / Low smoke: UL94 V0 and NFF 16102, DIN 5510-2
- Thermal shock: 5 cycles at - 40°C / +100°C
- Operating temperature: - 40°C / +85°C

Data transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

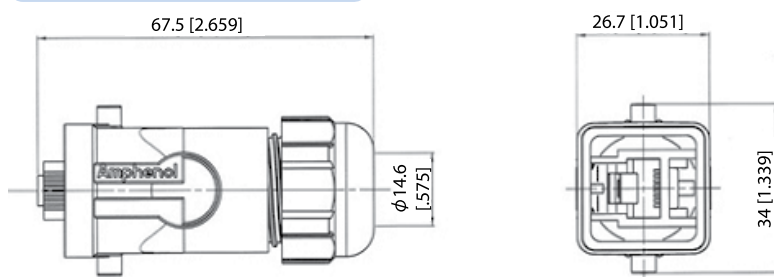
Part number code

	RJF EZ	2	2	03 100BTX
Shell type				
6: composite lever plug, plastic gland				
2: composite square flange receptacle				
Back terminations (for receptacles only)				
1: female RJ45				
2: RJ45 cordset				
Cordset length (for receptacles with "2" back termination only)				
03 100BTX: 0.3m [11.81 inches]				
05 100BTX: 0.5m [19.68 inches]				
10 100BTX: 1m [39.37 inches]				
15 100BTX: 1.5m [59.05 inches]				
Remark: Cabling configuration → 100 BTX = 568B (Ethernet specification)				

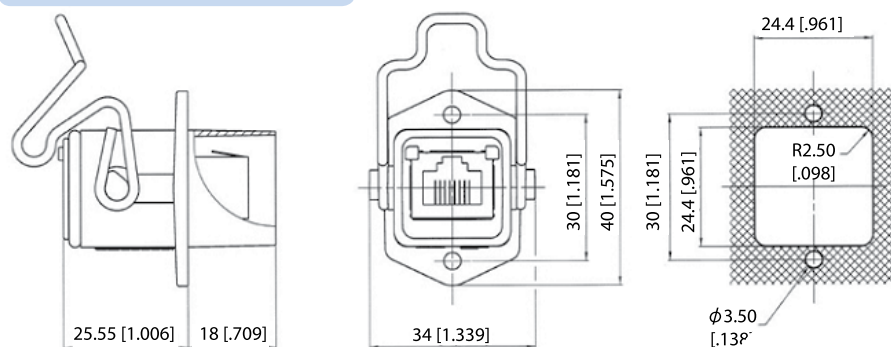
Examples:

- Plug: RJF EZ 6
- Receptacle, female RJ45 back termination: RJF EZ 21
- Receptacle, 1,5m [59.05"] 100 BTX cordset termination: RJF EZ 22 15 100BTX

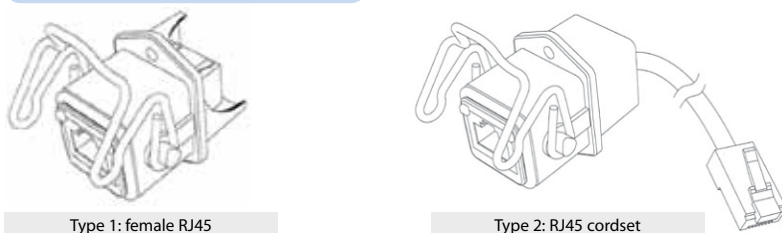
Plug



Receptacles



Back terminations

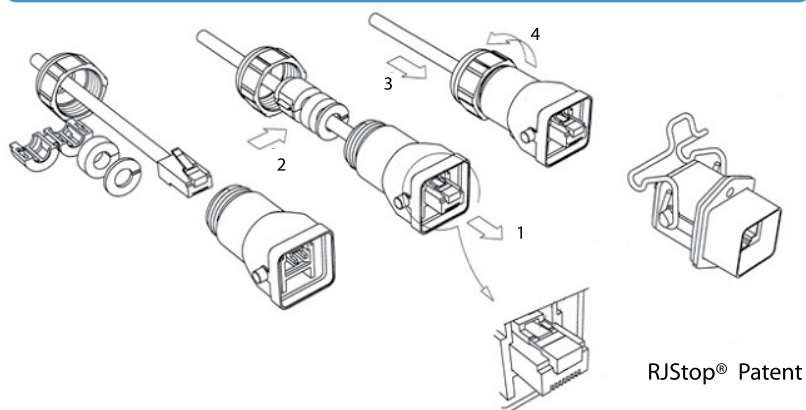


Type 1: female RJ45

Type 2: RJ45 cordset

Notes: type 2 without RJ45 plug at the end of the cable is also available: consult factory

Assembly instructions



Accessories

- IP68 dust caps
For plugs: **not available**
For receptacles: **RJF EZ BE**



- Panel gasket
Thickness: 1 mm [.039]
Part No. **RJF EZ JE**



RJF

Ethernet connection system for harsh environment – Industrial Ethernet



Applications

- Robotics
- Industrial process control
- CNC machines
- Special machines
- Oil & Gas
- Motion control
- Data acquisition and transmission in harsh environment
- Tele-maintenance

Data transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/
IEC 11801

RJF allows you to use an Ethernet Class D / Cat. 5e connection for 10 BaseT, 100 BaseTX or 1000 BaseT networks in harsh environments.

With the patented RJStop® system you can use a standard RJ45 cordset in a **metallic** plug which will protect it from shocks, dust and fluids.

No hazardous on-field cabling and grounding!

Main characteristics

- Compliant with IEC 60603-7 variante 11
- **Bayonet coupling** ("Audible & Visual" coupling signal)
- **Robust metallic shells based on MIL-DTL-26482 H - Shell size 18**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Sealed against fluids and dust (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Mechanical coding / polarization (4 positions)
- Compatible with cable diameter from 6 mm [0.236 in] to 13 mm [0.512 in]
For smaller diameters, please consult us.

Environmental protection

- Sealing: IP68
- Salt spray: 48 h with nickel plating
> 96 h with black coating
< 500 h with olive drab cadmium
- Fire retardant/Low smoke: UL94 V0 and NF F 16 101 & 16 102
- Vibrations: 10-500Hz, 10g, 3 axes: no discontinuity >10 nano s
- Shocks: IK06 ► weight of 250 g drop from 40cm [15.75 in] onto connectors (mated pair)
- Humidity: 21 days, 43°C, 98% humidity
- Thermal shock: 5 cycles at -40°C / +100°C
- Temperature range: -40°C / +85°C
- Storage temperature:

Part number code

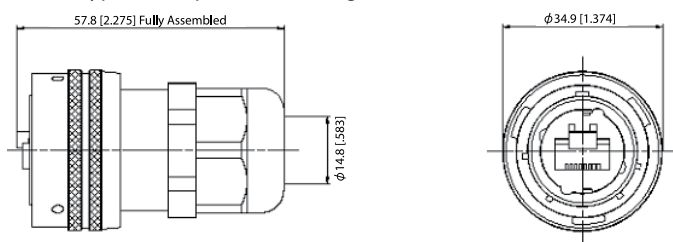
	RJF	2	2	B	03 100BTX
Shell type					
6: plug, plastic gland					
6M: plug, metal gland					
2: square flange receptacle					
2PE: square flange receptacle, IP68 backshell, plastic gland					
2PEM: square flange receptacle, IP68 backshell, metal gland					
7: jam nut receptacle					
7PE: jam nut receptacle, IP68 backshell, plastic gland					
7PEM: jam nut receptacle, IP68 backshell, metal gland					
<i>Note: also available a transversally sealed receptacle (unmated) ► see page 22</i>					
Back terminations (for receptacles only)					
1: female RJ45					
1RA: right angle female RJ45					
2: RJ45 cordset					
Shell finishes					
B: black Coating - ROHS compliant					
N: nickel (note: with this version, the inserts are metallized) - ROHS compliant					
G: olive drab cadmium (note: with this version, the inserts are metallized)					
BZC: aluminium shell - black zinc cobalt plating					
ZC: aluminium shell - green zinc cobalt plating - ROHS compliant					
Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand					
03 100 BTX: 0.3m [11.81 inches]			00: 8 tinned holes at the rear of the PCB to solder the cable		
05 100 BTX: 0.5m [19.68 inches]			OPEN: open cable - with no plug at the end		
10 100 BTX: 1m [39.37 inches]					
15 100 BTX: 1.5m [59.05 inches]					
Remark: Cabling configuration → 100 BTX = 568B (Ethernet specification)					

Examples:

- Nickel plug: RJF 6 N
- Black square flange receptacle, female RJ45 back termination: RJF 2 1 B
- Olive drab cadmium jam nut receptacle, 1.5m [59.05"] 100 BTX cordset termination: RJF 7 2 G 15 100BTX
- Black in line square flange receptacle, 30cm [11.81"] 100BTX cordset termination: RJF 2PE 2 B 03 100BTX
- Nickel jam nut receptacle, solder termination: RJF 72 N 00

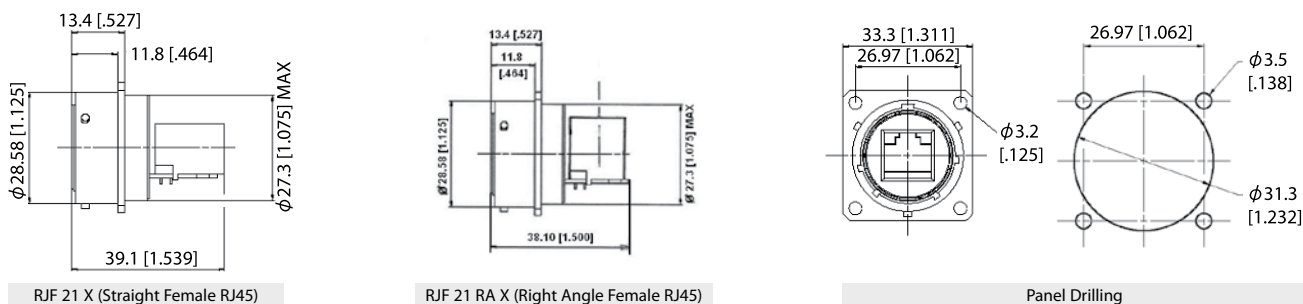
Plug

- Shell type 6 with plastic or metal gland

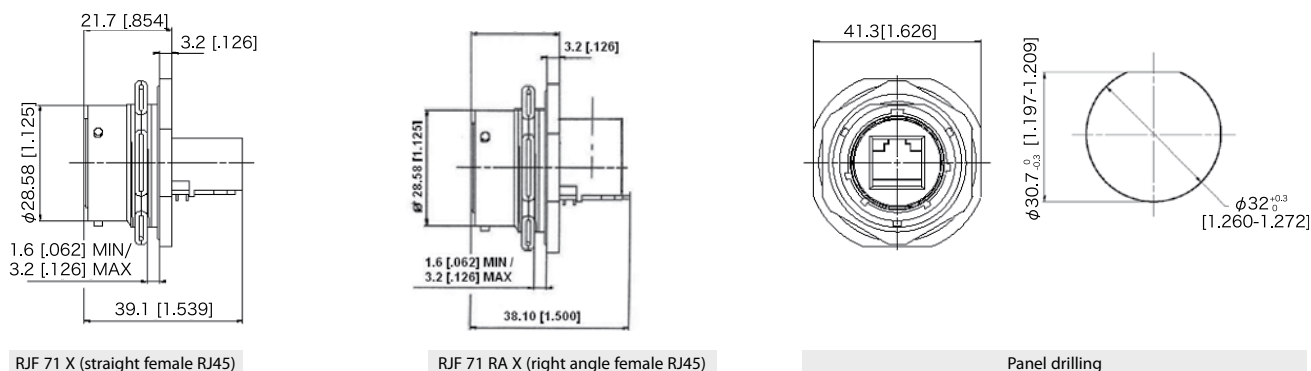


Receptacles

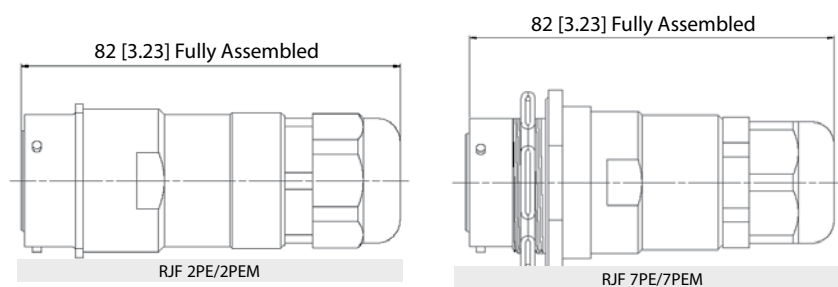
- Square flange receptacle • 4 mounting holes: shell type 2



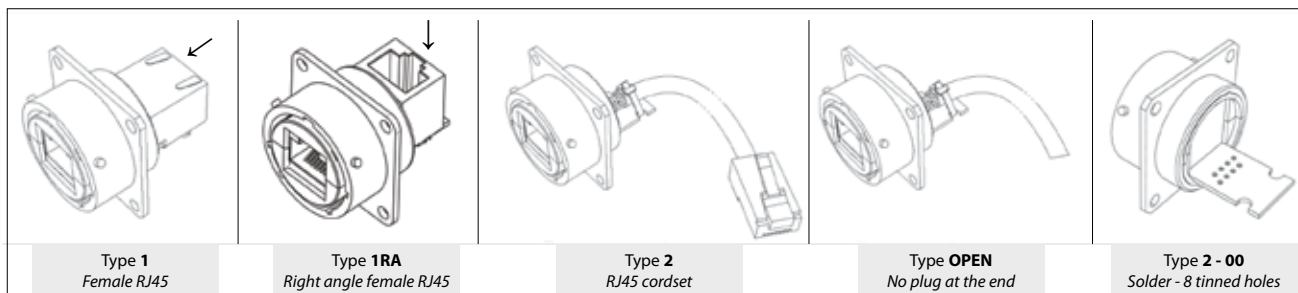
- Jam nut receptacle • Hexagonal nut mounting: shell type 7



- Receptacles with IP68 backshell : shell type 2PE and 7PE with plastic or metal gland



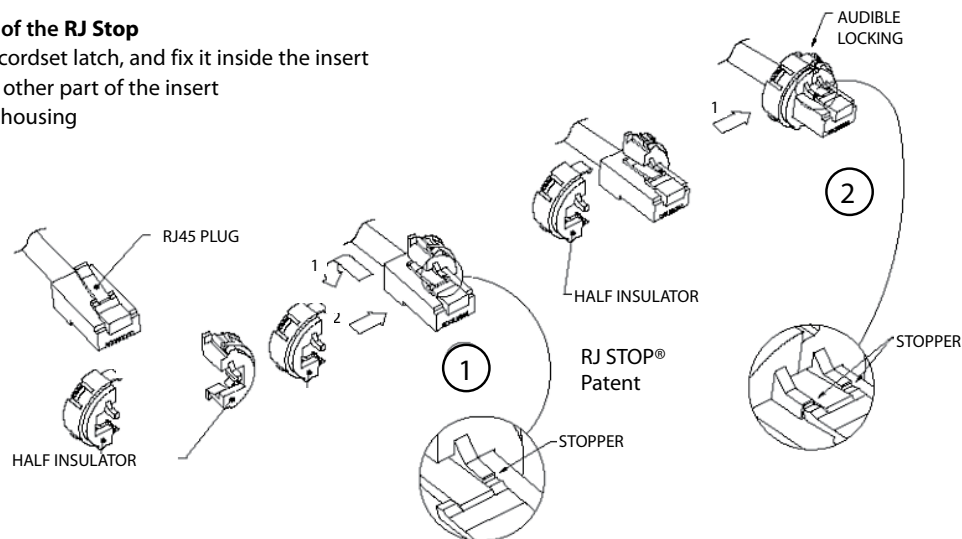
Back terminations



Universal: can be used with all standard RJ45 Cat.5e cordset brands.

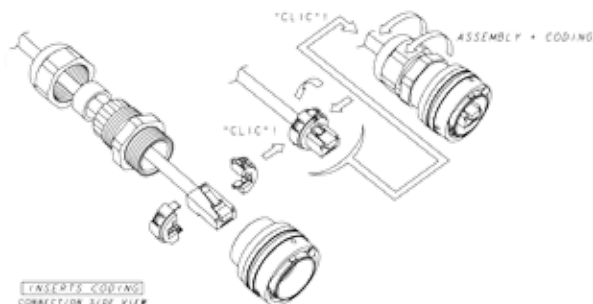
Assembly instructions of the RJ Stop

1. Push down the RJ45 cordset latch, and fix it inside the insert
2. Press in and click the other part of the insert
3. Insert in the metallic housing

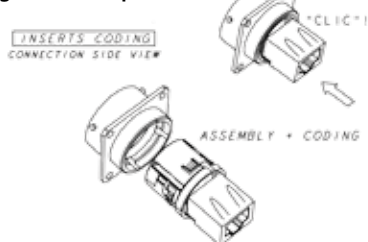


Easy and safe - No field cabling tools required for cabling

Assembling of the plug.

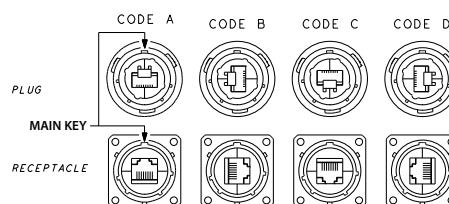


Assembling of the receptacle.



4 codings possibilities

(defined by the customer during the assembling).



IMPORTANT NOTE: to remove the insert, use the

■ Insert removal tool for receptacle and plug

P/N: RJF ODE



Accessories

■ Metallic cap

RJFC 2 G

Connector type

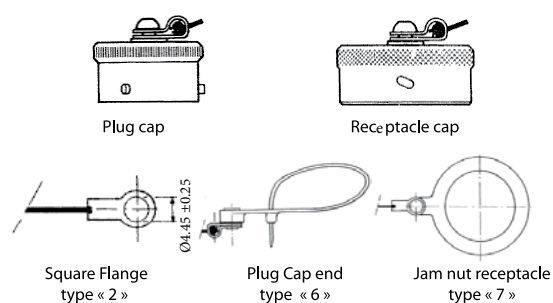
- 6: plug
- 2: square Flange Receptacle
- 7: jam Nut Receptacle

Shell material & finish

- B: black coating - ROHS compliant
- N: aluminium shell - nickel plating - ROHS compliant
- G: aluminium shell - olive drab cadmium plating

■ Panel gasket for square flange 2 »thickness - 0,6 mm

P/N: JE 18



RJF

Special receptacles: cable mount inline & PC tails

Inline cable mount receptacles

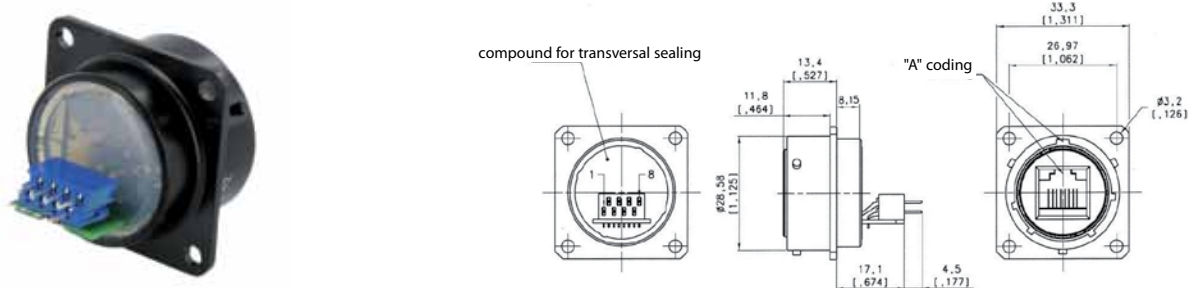
Inline receptacles allow you to make cable extensions in the field by using them with rugged RJ Field series plugs.



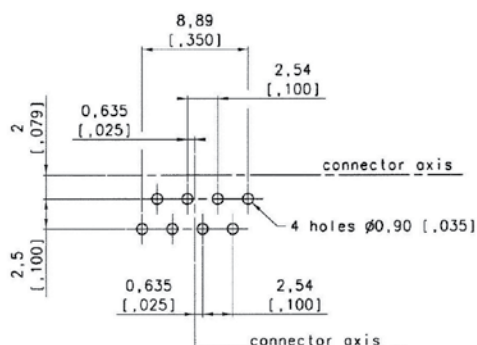
	Plating	Plastic gland	Metallic gland
Part number	Black coating - ROHS compliant	RJF2PEWF1B	RJF2PEMWF1B
	Nickel - ROHS compliant	RJF2PEWF1N	RJF2PEMWF1N
	Olive drab cadmium	RJF2PEWF1G	RJF2PEMWF1G

PC tails receptacles

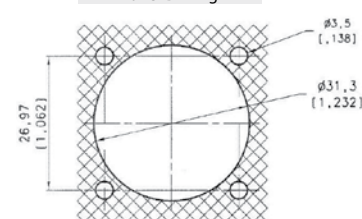
These receptacles can be soldered directly on your PCB. A compound insures a transversal sealing and good performance in high vibration environments. They can be connected with rugged RJField series plugs.



PCB LAYOUT - SOLDER FACE VIEW

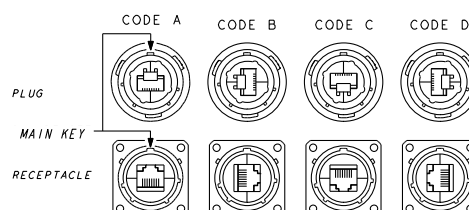


Panel Drilling



	Plating	Part number
Part number	Black coating - ROHS compliant	RJF 2S X 5B
	Nickel - ROHS compliant	RJF 2S X 5N
	Olive drab cadmium	RJF 2S X 5G

X to be replaced by the letter of the coding position you need (A, B, C, or D) ▶

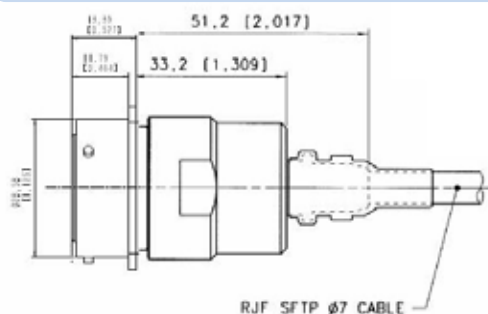


RJF

Receptacles & plugs with 360° EMI backshell

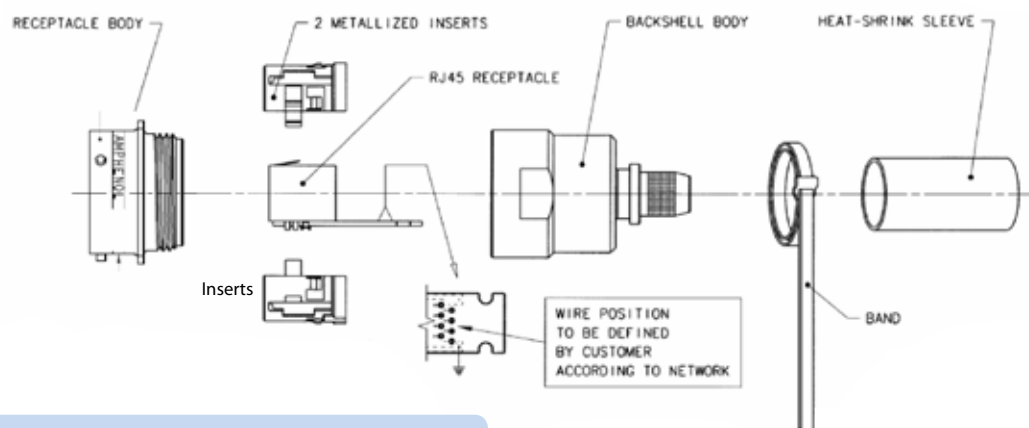
RJF series receptacles and plugs with EMI backshells provide a solution with 360° shielding: same protection than the one proposed by standard MIL-DTL-26482H connectors. With those solutions we recommend using our reinforced and double shielded Cat5E, Cat6, or Cat6A cable ► see pages 41-42-43.

Square flange receptacle - Straight backshell

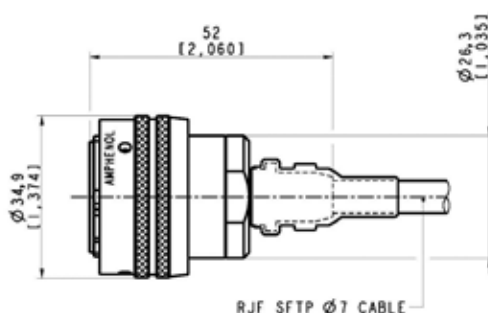


Part number	Plating	Part number
	Nickel - ROHS compliant	Kit30439NI
	Olive drab cadmium	Kit30439

Kit30439 & Kit30439NI include:



Plug - Straight backshell



Part number	Plating	Part number
	Nickel - ROHS compliant	Kit30394NI
	Olive drab cadmium	Kit30394

Kit30394 & Kit30394NI include:



RJF

Environmentally sealed receptacles, transversally sealed receptacles



In some applications, a transversal sealing for the receptacle is a « must ». This will prevent fluids and dust from going through the receptacle when plug or cap are not mated to the receptacle.

The sealed solution (version "S") has a compound at the rear of the receptacle as shown on the examples below. This feature is available both in RJF and RJF TV shells (please consult the relevant data sheet for product details and accessories). In addition, the Sealed RJF TV has been successfully tested in very high vibration corresponding to airplane applications.

Applications

- Outdoor equipment
- Airplanes equipment
- Tactical radios
- Shelters
- Rugged computers
- Data acquisition and transmission in harsh environments

Data transmission

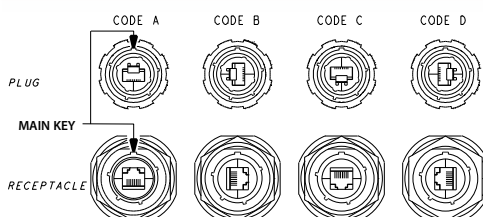
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Same as the RJF and RJF TV series.
- A complete IP68 sealing of the receptacle (even with no plug or no protective cap mated) is added.
- Outside dimensions are the same as the standard RJF and RJF TV series.
- Vibrations: the compounded versions of the RJF TV have been tested in vibration following the NAS 1599 Aeronautic specification (Ambient temperature):
5 - 3000 Hz, 20g, 2,5 mm [0.1 inch] double amplitude, 3 axes, 12 hours
Note: this specification exceeds MIL-C-26500 requirements.

IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory : use the codes A, B, C or D in the part number: **see below**.



Example :
RJFTV 25 A2 G 15 100BTX

Part number code

Series	RJF	7S	A	2	G	03 100BTX
RJF: MIL-DTL-26482 H bayonet						
Shell type						
2S: sealed square flange receptacle						
7S: sealed jam nut receptacle						
Coding						
A,B,C,D						
Back terminations (for receptacles only)						
1: female RJ45						
1RA: right angle female RJ45						
2: RJ45 Cordset						
Shell material & finish						
B: aluminium shell - black coating - <i>ROHS compliant</i>						
N: aluminium shell - nickel plating - <i>ROHS compliant</i>						
G: aluminium shell - olive drab cadmium plating						
<i>Note: for nickel and olive drab cadmium plating, receptacle inserts are metallized.</i>						
Cordset length (For Receptacles with "2" Back Termination only) - Other lengths are available on demand						
03 100 BTX: 0.3m [11.81 inches]						
05 100 BTX: 0.5m [19.68 inches]						
10 100 BTX: 1m [39.37 inches]						
15 100 BTX: 1.5m [59.05 inches]						
OPEN: open cable - with no plug at the end						

Remark: cabling configuration: 100 BTX = 568B (Ethernet specification)

Examples:

- bayonet, sealed jam nut receptacle, A coding, with female RJ45 back termination, olive drab cadmium plating: **RJF 7SA 1 G**
- bayonet, sealed square flange receptacle, A coding, with female RJ45 back termination, black plating: **RJF 2SA 1 B**
- bayonet, sealed jam nut receptacle, A coding, 1.5m [59.05"] 100 BTX cordset, olive drab cadmium plating: **RJF 7SA 2 G15 100BTX**

RJF

Hermetic receptacles



In some applications, a transversal hermiticity for the receptacle is a « must ». This will prevent gas from going through the receptacle when plug or cap are not mated to the receptacle.

The hermetic solution (version "H") has a compound at the rear of the receptacle as shown on the examples below.

This feature is available both in RJF and RJF TV shells (please consult the relevant data sheet for product details and accessories).

Helium leakage is less than 1.10^{-6} cm^3 per second [0.1 micron cubic ft per hour] at one bar [15 psi] pressure differential.

Applications

- Outdoor equipment
- Airplanes equipment
- Tactical radios
- Shelters
- Rugged computers
- Data acquisition and transmission in harsh environments

Data Transmission

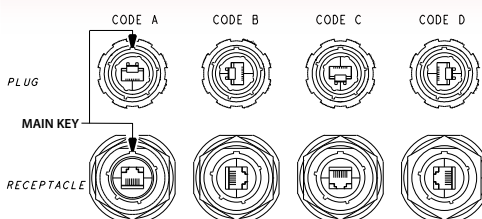
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Same as the RJF and RJF TV series.
- A complete IP68 sealing of the receptacle (even with no plug or no protective cap mated) is added.
- Outside dimensions are the same as the standard RJF and RJF TV series.
- Vibrations: the compounded versions of the RJF TV have been tested in vibration following the NAS 1599 Aeronautic specification (Ambient temperature):
5 - 3000 Hz, 20g, 2,5 mm [.1 inch] double amplitude, 3 axes, 12 hours
Note: this specification exceeds MIL-C-26500 requirements.

IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory: use the codes A, B, C or D in the part number: **see below**.



Example :
RJFTV 2H A2 N 15 100BTX



Part number code

Series	RJF	7H	A	2	G	03 100BTX
RJF: MIL-DTL-26482 H bayonet						
Shell type						
2H: transversally sealed and hermetic square flange receptacle						
7H: transversally sealed and hermetic jam nut receptacle						
Coding						
A,B,C,D						
Back terminations (for receptacles only)						
1: female RJ45						
1RA: right angle female RJ45						
2: RJ45 Cordset						
Shell material & finish						
B: aluminium shell - black coating - ROHS compliant						
N: aluminium shell - nickel plating - ROHS compliant						
G: aluminium shell - olive drab cadmium plating						
Nota: for nickel and olive drab cadmium plating, receptacle inserts are metallized.						
Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand						
03 100 BTX: 0.3m [11.81 inches]						
05 100 BTX: 0.5m [19.68 inches]						
10 100 BTX: 1m [39.37 inches]						
15 100 BTX: 1.5m [59.05 inches]						
OPEN: open cable - with no plug at the end						
Remark: cabling configuration: 100 BTX = 568B (Ethernet specification)						

Examples:

- bayonet, sealed jam nut receptacle, A coding, with female RJ45 Back termination, olive drab cadmium plating: **RJF 7HA 1 G**
- bayonet, sealed square flange receptacle, A coding, with female RJ45 back termination, black plating: **RJF 2HA 1 B**
- bayonet, sealed jam nut receptacle, A coding, 1.5m [59.05"] 100 BTX cordset, olive drab cadmium plating: **RJF 7HA 2 G15 100BTX**



RJF

Special plug for big insulation wire up to 1.6 mm [0.062 in]



Rugged plug dedicated to cable with insulation wire from 1,1 to 1,6 mm [from 0.043 in to 0.062 in]

Remark:

- Solution compatible with any RJF receptacle
- For cables which are not compatible with standard RJ45 plug.

Applications

- Robotics
- Industrial process control
- CNC machines
- Special machines
- Oil & Gas
- Motion control
- Data acquisition and transmission in harsh environment
- Tele-maintenance

Main characteristics

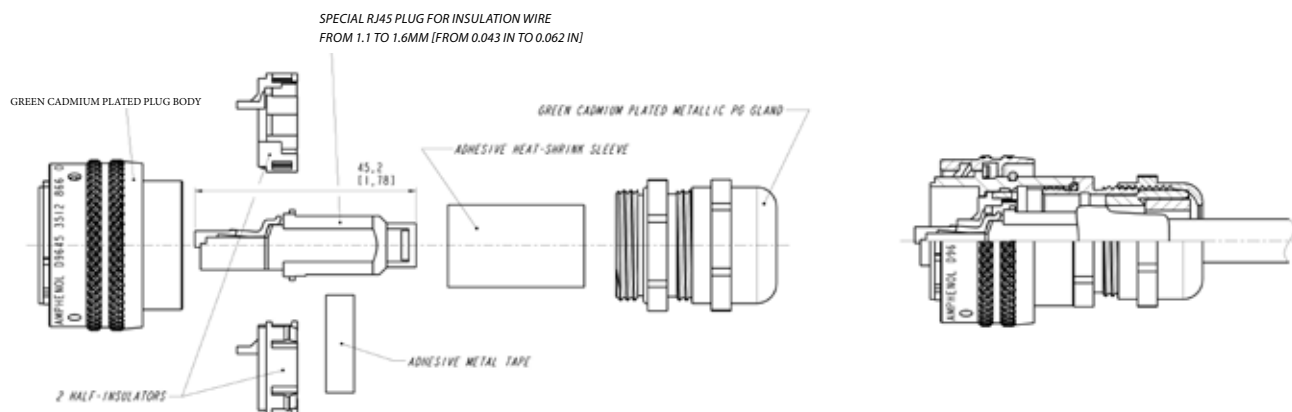
- **Bayonet coupling** ("Audible & Visual" coupling signal)
- **Robust metallic shells based on MIL-DTL-26482 H - Shell size 18**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Sealed against fluids and dust (IP68)
- Shock, vibration and traction resistant
- Mechanical coding / polarization (4 positions)
- Compatible with cable diameter from 6 mm [0.216 in] to 13 mm [0.512 in], for smaller diameters, please consult us

Environmental protection

- Sealing: IP68
- Salt Spray: 48 h with nickel plating
> 96 h with black coating
> 500 h with oliv drab cadmium
- Fire retardant/Low smoke: UL94 V0 and NF F 16 101 & 16 102
- Vibrations: 10 – 500 Hz, 10 g, 3 axes: no discontinuity >10 nano s.
- Shocks: IK06 ► weight of 250 g drop from 40 cm [15.75 in] onto connectors (mated pair)
- Humidity: 21 days, 43°C, 98% humidity
- Thermal shock: 5 cycles at - 40°C / +100°C
- Temperature range: - 40°C / +85°C

Data transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801



Part
number

Plating

Nickel - ROHS compliant
Olive drab cadmium

Part number

Kit39992NI
Kit39992G

RJ Field Receptacle with Self Closing Cap

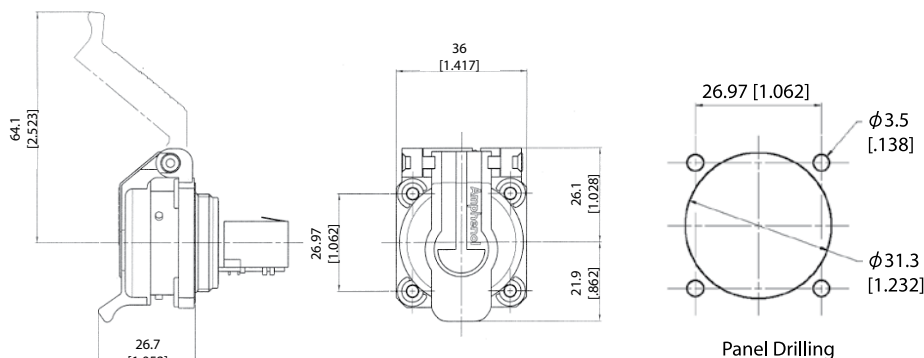


This kit includes a receptacle and a Self Closing Cap which protects the RJ Field square flange receptacles (MIL-C-26482 type). This cap offers a protection against dust and water projections. A spring automatically closes the upper part of the cap when either the RJfield plug, USB or IEEE1394 cordset, or USB key are removed from the receptacle.

Sealing level IP54
(Splash and dust Proof)

RJF 21 X SCC

RJ45 version



Part number *	Plating	Metallized insert (EMI)	Part number
	Black coating - ROHS compliant	No	RJF 21B SCC
	Nickel - ROHS compliant	Yes	RJF 21N SCC
	Olive drab cadmium	Yes	RJF 21G SCC

* The part number includes the receptacle + the self closing cap

Remarks:

- the back termination is female RJ45
- it could be used with our RJF series plug (part number RJF6xx ► see page 17)

Note: Panel gasket with any of these receptacles: JE18



USBF 21 x SCC, USBF 21 x SCC, & IEEE1394



USB2.0 & 3.0 - A version

(see pages 94 & 107)



USB-B version

(see page 118)



IEEE1394 version

(see page 143)

RJF TV

Ethernet connection system for harsh environment



Applications

- Data acquisition and transmission in harsh environment
- Railways
- Radars
- Shelters
- Battlefield communication
- Systems
- Navy

Data Transmission

10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

RJFTV allows you to use an Ethernet Class D / Cat. 5e connection for 10 BaseT, 100 BaseTx or 1000 BaseT networks in harsh environments. With the patented RJStop system you can use a standard RJ45 cordset in a **metallic** plug which will protect it from shocks, dust and fluids.
No hazardous on-field cabling and grounding!

Main characteristics

- Sealed against fluids and dusts (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Mechanical coding / Polarization (4 positions)
- Improved EMI protection
- **Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device - Shell size 19**
- **Robust metallic shells**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 6 mm [0.236 in] to 13 mm [0.512 in], for smaller diameters please consult us

Environmental protection

- Sealing: IP68
- Salt spray: 48h with aluminium shell - Nickel, & black zinc cobalt plating
> 500h with aluminium shell - Olive drab cadmium plating
500 h with marine bronze shell
- Fire retardant/Low smoke : UL94 V0 and NF F 16 101 & 16 102
- Vibrations : 10 - 500 Hz, 10 g, 3 axes: no discontinuity > 10 nano s.
- Compounded versions tested per NAS 1599 (5-3000 Hz, 20g, 12h)
- Shocks: IK06 ►weight of 250 g drop from 40 cm [15.75 in] onto connectors (mated pair)
- Humidity: 21 days, 43°C, 98% humidity
- Thermal shock: 5 cycles at -40°C / +100°C
- Temperature range: -40°C / +85°C

Part number code

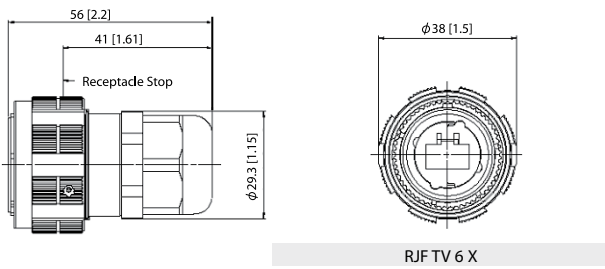
	RJF TV	2	2	G	03 100 BTX
Shell type 6: plug with plastic gland 6M: plug with metal gland 2: square flange receptacle 2PE: square flange receptacle, IP68 backshell, plastic gland 2PEM: square flange receptacle, IP68 backshell, metal gland 7: jam nut receptacle 7PE: jam nut receptacle, IP68 backshell, plastic gland 7PEM: jam nut receptacle, IP68 backshell, metal gland <i>Note: also available a transversally sealed receptacle (unmated) ► See page 36</i>					
Back terminations (receptacles only) 1: female RJ45 1RA: right angle female RJ45 2: RJ45 Cordset					
Shells material & Finish N: aluminium shell - nickel plating (receptacle inserts are metallized) - ROHS compliant G: aluminium shell - olive drab cadmium plating (receptacle inserts are metallized) BZ: marine bronze shell (receptacle inserts are metallized) - ROHS compliant BZC: aluminium shell - black zinc cobalt plating ZC: aluminium shell - green zinc cobalt plating - ROHS compliant ZN: aluminium shell - black zinc nickel plating - ROHS compliant					
Cordset length (type 2 back termination only) - Other lengths are available on demand 03 100 BTX: 0.3m [11.81 inches] 00: 8 tinned holes at the rear of the PCB to solder the cable 05 100 BTX: 0.5m [19.68 inches] OPEN: open cable - with no plug at the end 10 100 BTX: 1m [39.37 inches]					
Remark: cabling configuration → 100 BTX = 568B (Ethernet specification)					

Examples:

- Olive drab cadmium plug with plastic gland: RJF TV 6G
- Olive drab cadmium jam nut receptacle, female RJ45 back termination: RJF TV 71G
- Nickel jam nut receptacle, 1,5 m 100 BTX cordset back termination: RJF TV 72N 15 100BTX
- Olive drab cadmium in line square flange recept., 0,3 m 100 BTX cordset back termination: RJF TV 2PE 2 G 03 100BTX
- Nickel jam nut receptacle solder termination 8 tinned holes: RJF TV 22 N 00

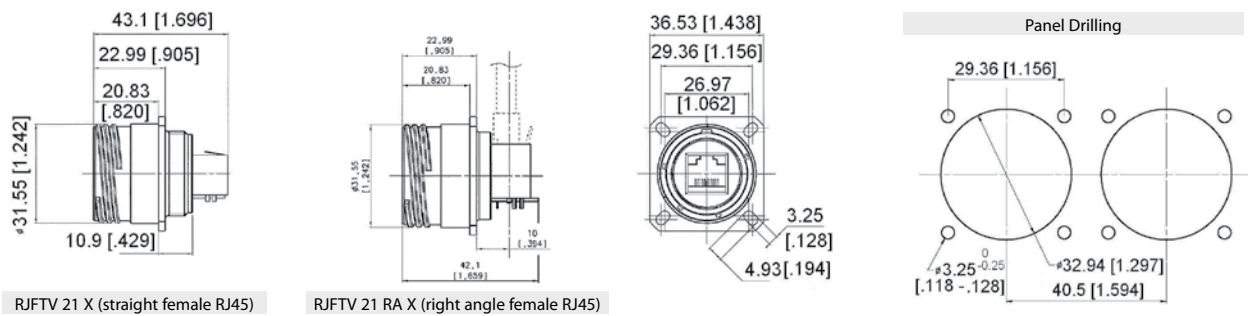
Plug

- Shell type 6 with plastic or metal gland

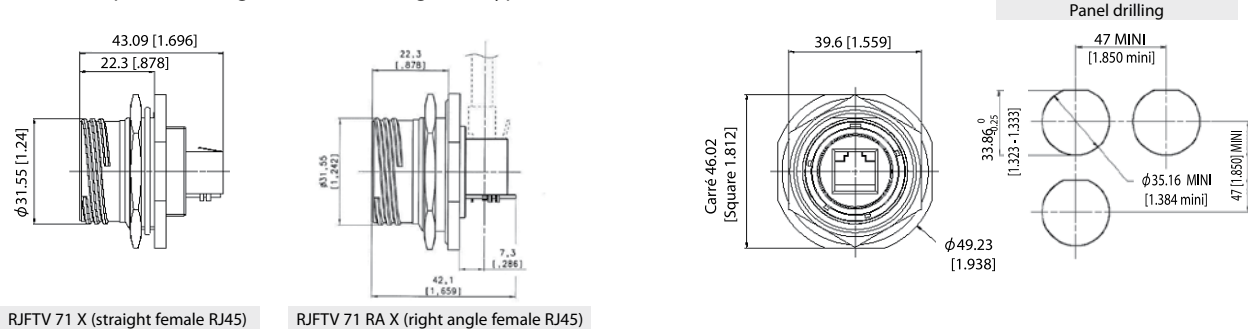


Receptacles

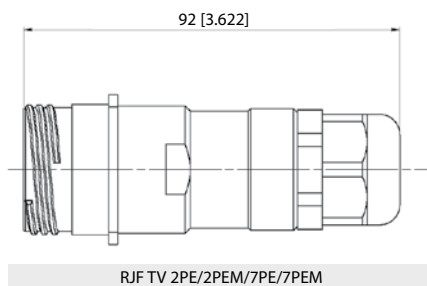
- Square flange receptacle - 4 mounting holes: shell type 2



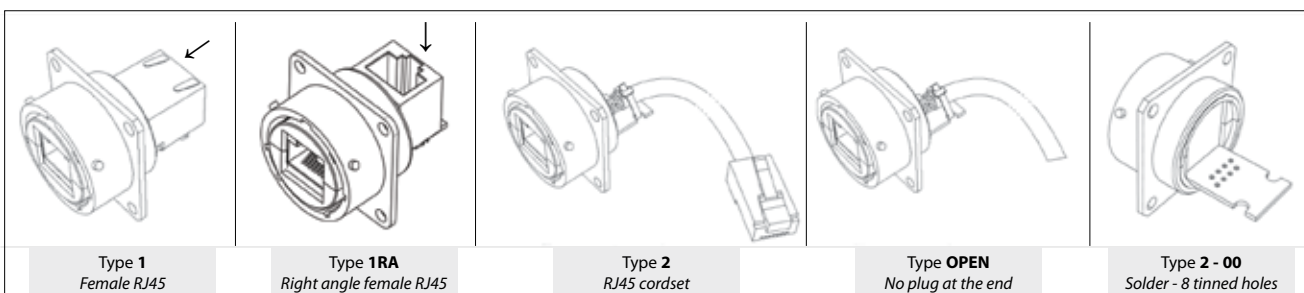
- Jam nut receptacle - Hexagonal nut mounting: shell type 7



- Receptacles with IP68 backshell: Shell type 2PE and 7PE with plastic or metal gland



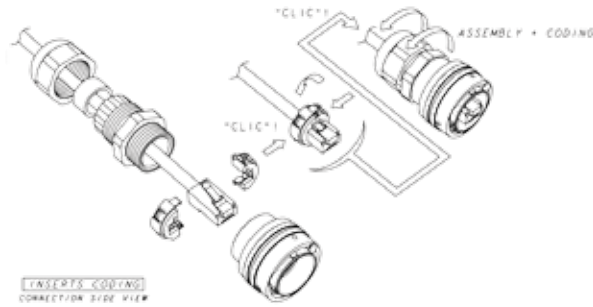
Back terminations



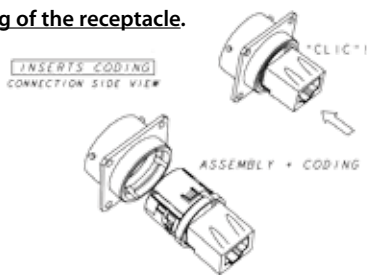
Assembly instructions

Insert codings

Assembling of the plug.

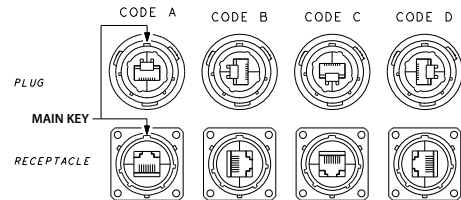


Assembling of the receptacle.



4 codings possibilities

(defined by the customer during the assembling).



IMPORTANT NOTE: to remove the insert, use the

■ Insert removal tool for receptacle and plug

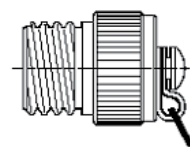
P/N: RJF ODE



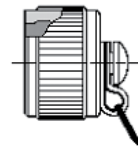
Accessories

■ Metallic Caps

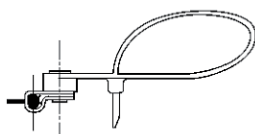
	RJFTVC	2	G
Connector type			
6: plug			
2: square flange receptacle			
7: jam nut receptacle			
Shell material & finish			
N: aluminium shell - nickel plating - ROHS compliant			
G: aluminium shell - olive drab cadmium plating			
BZ: marine bronze shell - ROHS compliant			
ZC: aluminium shell - green zinc cobalt plating - ROHS compliant			
ZN: aluminium shell - black zinc nickel plating - ROHS compliant			



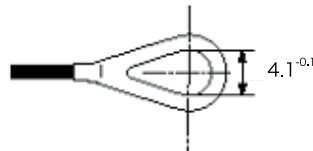
Plug Cap



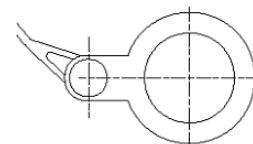
Receptacle Cap



Plug Cap end



Square flange receptacle cap end



Jam Nut receptacle cap end

■ Panel gasket for square flange receptacle

Thickness: 0,8 mm [.031]:

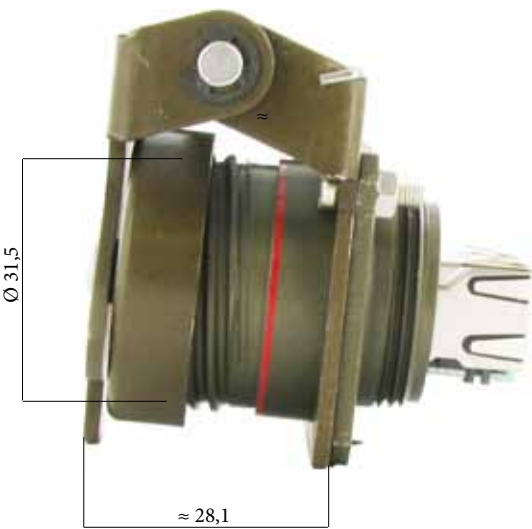
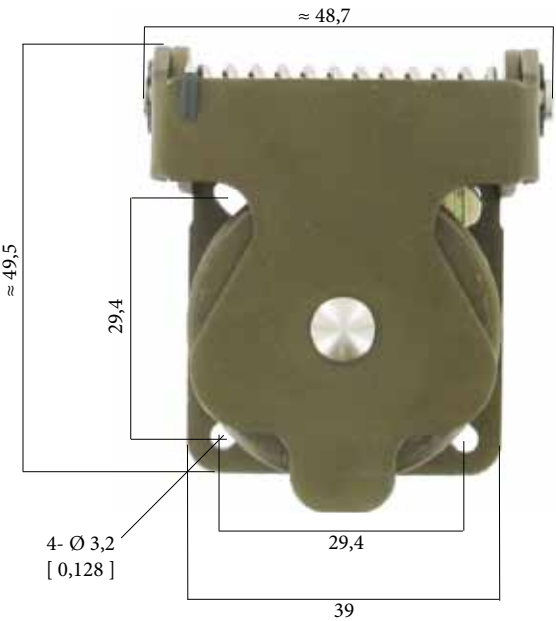
P/n: JE19



RJFTV

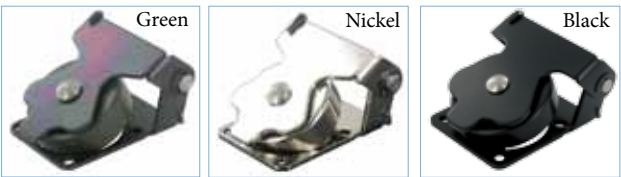
Self Closing Cap (SCC series)

This Self Closing cap automatically protects the RJF TV square flange receptacle (MIL-DTL-38999 type), protecting your system from dust and water projection. A spring automatically closes the upper part of the cap when the RJF TV plug is removed from the receptacle.



IMPORTANT NOTE

Metal Self Closing cap are sold separately (without receptacle).



Part number	Plating	Part number
	Black coating - <i>ROHS compliant</i>	RJF TV SCC B
	Nickel - <i>ROHS compliant</i>	RJF TV SCC N
	Olive drab cadmium	RJFTV SCC G

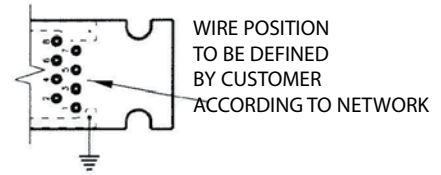
Remark: compatible with RJFTV square flange receptacle type RJFTV2xxx only (see page 26).

Kit38204 and Kit40771 include:



IMPORTANT NOTE

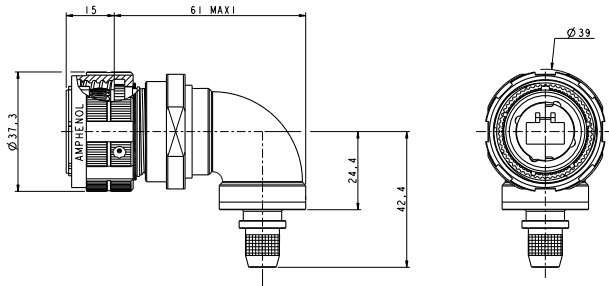
With these receptacles, you will have to solder your own cable on the PCB. So the wire positions have to be defined according to your network.



Plug - Straight backshell



Plug - Right angle backshell



Part number	Plating	P/N
	Nickel - ROHS compliant	Kit38081NI
	Olive drab cadmium	Kit38081
	Green zinc cobalt - ROHS compliant	Kit38081ZC
	Black zinc cobalt - ROHS compliant	Kit38081ZN

Part number	Plating	P/N
	Nickel - ROHS compliant	Kit40792NI
	Olive drab cadmium	Kit40792
	Green zinc cobalt - ROHS compliant	Kit40792ZC
	Black zinc cobalt - ROHS compliant	Kit40792ZN

Kit38081 and Kit40792 include:



IMPORTANT NOTE

With these plugs, the standard RJ45 plug is not provided. Customer will have to crimp a standard RJ45 on the cable by himself.

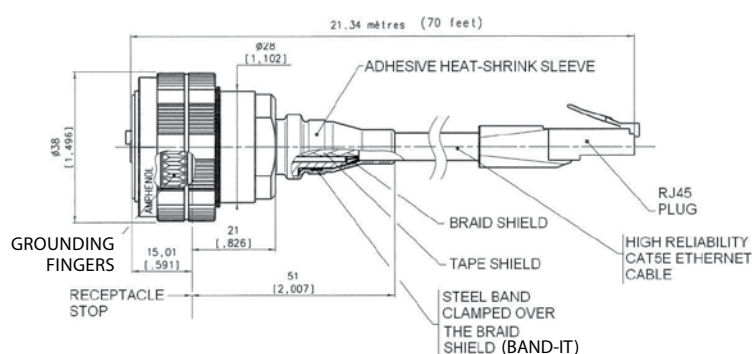
Remark: we advise using our double shielded, reinforced Cat5E, Cat6, or Cat6A cables (see pages 41-42-43) with these RJFTV series EMI connectors.

If customer wants to use his own cable, please check with us regarding compatibility with our backshells: contact@rjfield.com.

We also provide assembled cordsets (**see examples below**).

For this type of solution please provide the configuration needed: length, description of second end...

Example of assembled cordset:



RJF TV

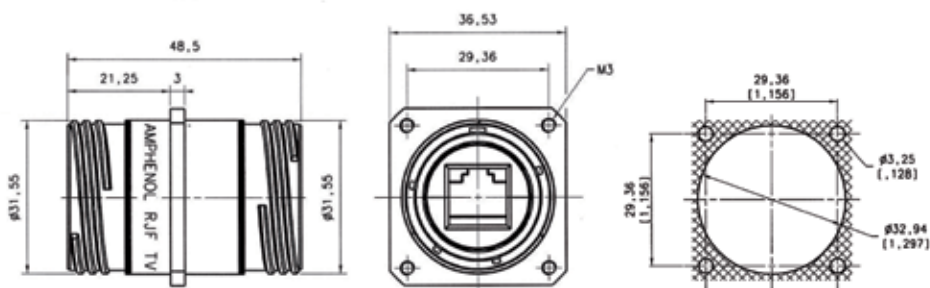
Through bulkhead receptacles

Our RJFTV through bulkhead receptacles can be connected on each side with rugged RJFTV plugs.

This system allows mechanical protection and a sealing (IP68 when mated) inside and outside the equipment, and keeps the flexibility offered by panel mount and plug connectors.

They can be connected with RJFTV series plugs.

Square flange receptacle



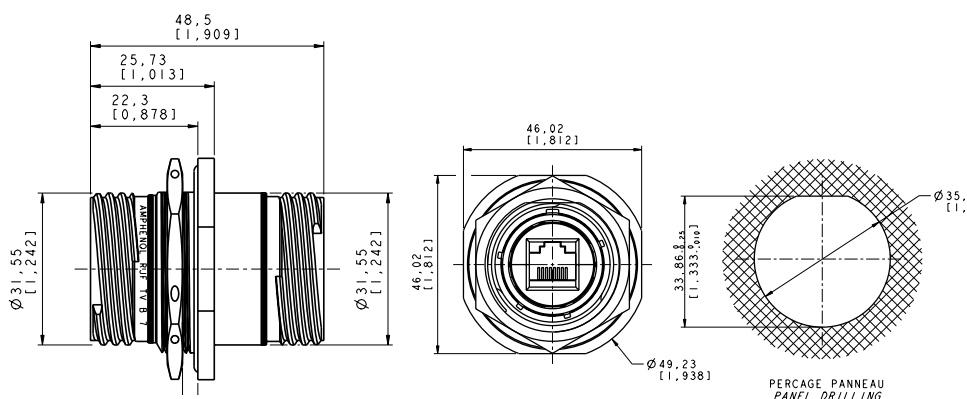
Part number	Plating	Metallized insert	For coding A
	Nickel - <i>ROHS compliant</i>	No	RJF TV B 2 N ISO BRUT *
	Nickel - <i>ROHS compliant</i>	Yes	RJF TV B 2 N ISO NI *
	Olive drab cadmium	No	RJF TV B 2 G ISO BRUT *
	Olive drab cadmium	Yes	RJF TV B 2 G ISO NI *

* ISO BRUT = non conductive insert
ISO NI = conductive insert

IMPORTANT NOTE

Possibility of other codings - Please consult us

Jam nut receptacle



Part number	Plating	Metallized insert	Part number
	Nickel - <i>ROHS compliant</i>	No	RJF TV B 7 N ISO BRUT *
	Nickel - <i>ROHS compliant</i>	Yes	RJF TV B 7 N ISO NI *
	Olive drab cadmium	No	RJF TV B 7 G ISO BRUT *
	Olive drab cadmium	Yes	RJF TV B 7 G ISO NI *

* ISO BRUT = non conductive insert
ISO NI = conductive insert

RJF TV

Stand off receptacles

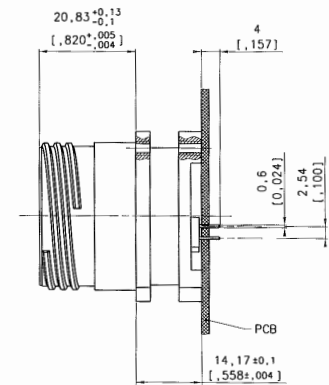
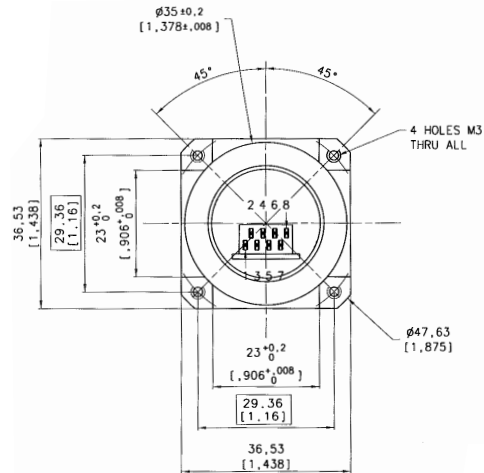
These receptacles can be sold directly to your PCB.

A compound insures a transversal sealing and good performance in high-vibration environments.

The shell of those receptacles are in the "Stand Off" style.

They can be connected with RJFTV series plugs.

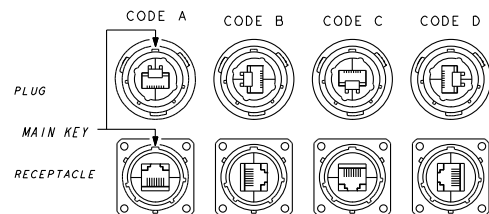
Square flange receptacle



Part number*	Plating available	Part number
	Nickel - ROHS compliant	RJF TV 2S X 5N F459
	Olive drab cadmium	RJF TV 2S X 5G F459

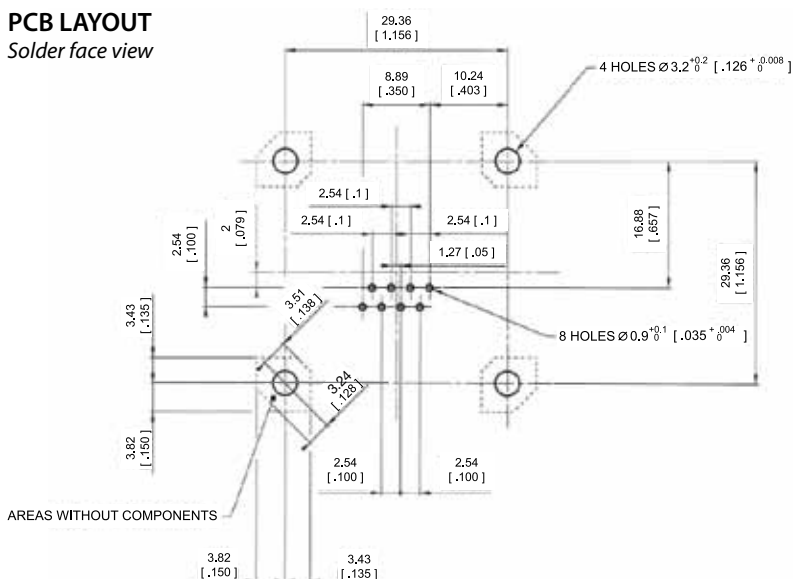
* new p/n - before it was RJFTV25GF459 or RJFTV25NF459

X to be replaced by the letter of the coding position you need (A, B, C, or D) ▷

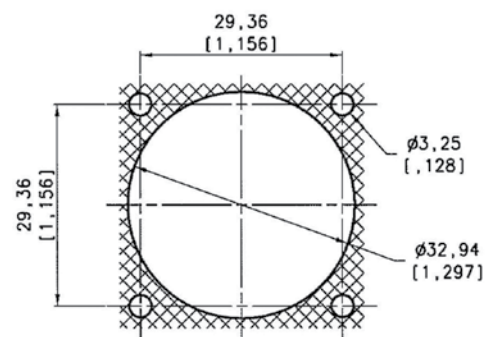


PCB LAYOUT

Solder face view

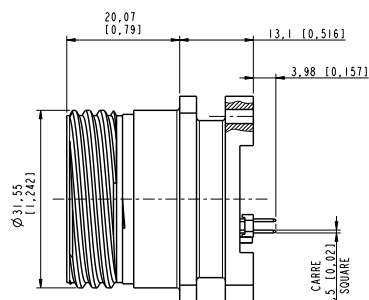
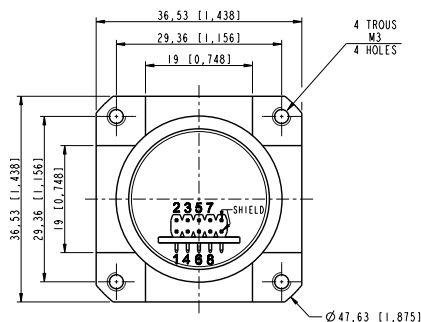


Panel drilling



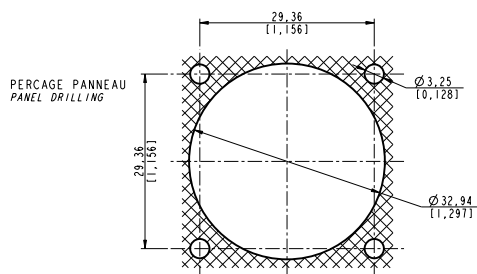
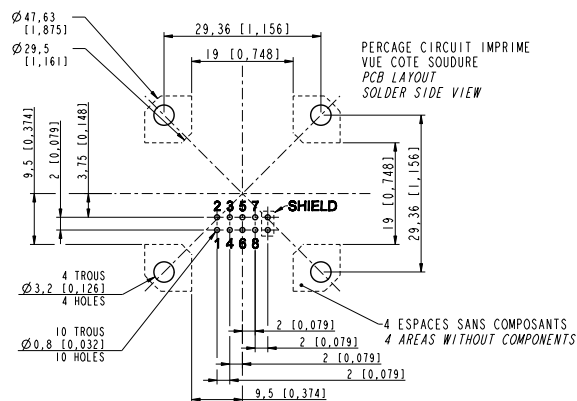


Now available with same distance between flange and PCB than the 38999 stand off one.
So you can use a 38999 stand off and a RJ45 stand off in the same implementation.

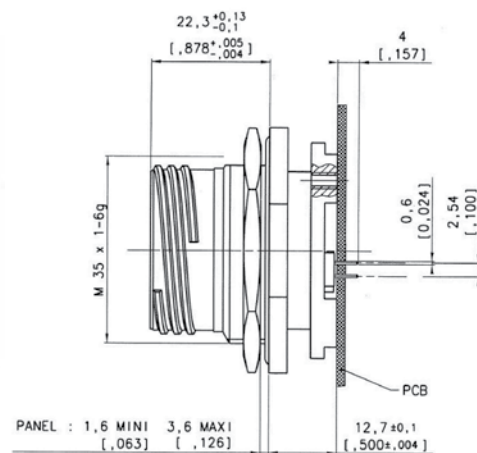
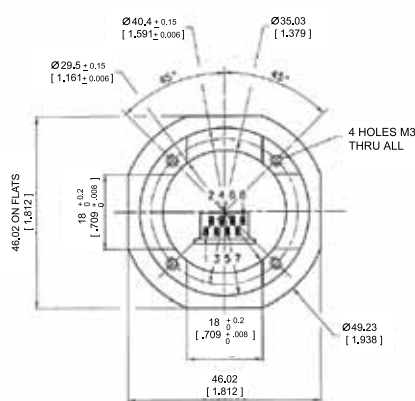


Part number: **36542**

Plating: olive drab cadmium



Jam nut receptacle



Part number

Plating

Part number

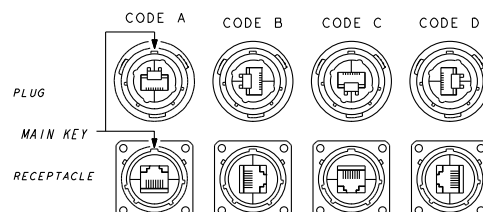
Nickel - ROHS compliant

RJF TV 7S X 5N F459

Olive drab cadmium

RJF TV 7S X 5G F459

X to be replaced by the letter of the coding position you need (A, B, C, or D) ▷



RJF TV

Environmentally sealed receptacles, transversally sealed receptacles



In some applications, a transversal sealing for the receptacle is a « must ». This will prevent fluids and dust from going through the receptacle when plug or cap are not mated to the receptacle.

The sealed solution (version "S") has a compound at the rear of the receptacle as shown on the examples below. This feature is available both in RJF and RJF TV shells (please consult the relevant data sheet for product details and accessories). In addition, the Sealed RJF TV has been successfully tested in very high vibration corresponding to airplane applications.

Applications

- Outdoor equipment
- Airplanes equipment
- Tactical radios
- Shelters
- Rugged computers
- Data acquisition and transmission in harsh environments

Data transmission

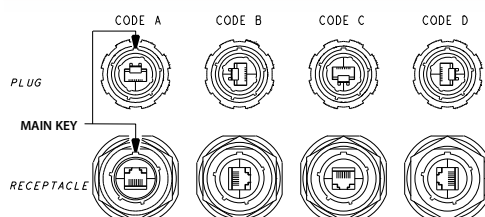
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Same as the RJF and RJF TV series.
- A complete IP68 sealing of the receptacle (even with no plug or no protective cap mated) is added.
- Outside dimensions are the same as the standard RJF and RJF TV series.
- Vibrations: the compounded versions of the RJF TV have been tested in vibration following the NAS 1599 Aeronautic specification (Ambient temperature):
5 - 3000 Hz, 20g, 2,5 mm [0.1 inch] double amplitude, 3 axes, 12 hours
Note: this specification exceeds MIL-C-26500 requirements.

IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory : use the codes A, B, C or D in the part number: **see below**.



Example :
RJFTV 2S A2 G 15 100BTX

Part number code

Series	RJF TV	7S	A	2	G	03 100BTX
RJFTV: MIL-DTL-38999 Series III						
Shell type						
2S: sealed square flange receptacle						
7S: sealed jam nut receptacle						
Coding						
A,B,C,D						
Back terminations (for receptacles only)						
1: female RJ45						
1RA: right angle female RJ45						
2: RJ45 Cordset						
Shell material & finish						
N: aluminium shell - nickel plating - ROHS compliant						
G: aluminium shell - olive drab cadmium plating						
BZ: marine bronze shell - ROHS compliant						
<i>Nota: receptacle inserts are metallized</i>						
Cordset length (For Receptacles with "2" Back Termination only) - Other lengths are available on demand						
03 100 BTX: 0.3m [11.81 inches]						
05 100 BTX: 0.5m [19.68 inches]						
10 100 BTX: 1m [39.37 inches]						
15 100 BTX: 1.5m [59.05 inches]						
OPEN: open cable - with no plug at the end						

Remark: cabling configuration: 100 BTX = 568B (Ethernet specification)

Examples:

- series III, sealed jam nut receptacle, A coding, with female RJ45 back termination, olive drab cadmium plating: **RJF TV 7SA 1 G**
- series III, sealed square flange receptacle, A coding, with female RJ45 back termination, nickel plating: **RJF TV 2SA 1 N**
- series III, sealed jam nut receptacle, A coding, 1.5m [59.05"] 100 BTX cordset, olive drab cadmium plating: **RJF TV 7SA 2 G15 100BTX**

RJF TV

Hermetic receptacles



In some applications, a transversal hermiticity for the receptacle is a « must ». This will prevent gas from going through the receptacle when plug or cap are not mated to the receptacle.

The hermetic solution (version "H") has a compound at the rear of the receptacle as shown on the examples below.

This feature is available both in RJF and RJF TV shells (please consult the relevant data sheet for product details and accessories).

Helium leakage is less than 1.10^{-6} cm^3 per second [0.1 micron cubic ft per hour] at one bar [15 psi] pressure differential.

Applications

- Outdoor equipment
- Airplanes equipment
- Tactical radios
- Shelters
- Rugged computers
- Data acquisition and transmission in harsh environments

Data Transmission

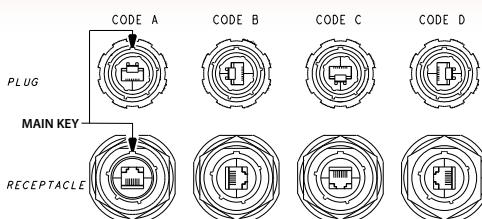
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Same as the RJF and RJF TV series.
- A complete IP68 sealing of the receptacle (even with no plug or no protective cap mated) is added.
- Outside dimensions are the same as the standard RJF and RJF TV series.
- Vibrations: the compounded versions of the RJF TV have been tested in vibration following the NAS 1599 Aeronautic specification (Ambient temperature):
5 - 3000 Hz, 20g, 2,5 mm [.1 inch] double amplitude, 3 axes, 12 hours
Note: this specification exceeds MIL-C-26500 requirements.

IMPORTANT NOTE

Due to the compound, the coding of the connector must be done in the factory: use the codes A, B, C or D in the part number: **see below**.



Example :
RJFTV 2H A2 N 15 100BTX



Part number code

Series	RJF TV	7H	A	2	G	03 100BTX
RJFTV: MIL-DTL-38999 series III						
Shell type						
2H: transversally sealed and hermetic square flange receptacle						
7H: transversally sealed and hermetic jam nut receptacle						
Coding						
A,B,C,D						
Back terminations (for receptacles only)						
1: female RJ45						
1RA: right angle female RJ45						
2: RJ45 Cordset						
Shell material & finish						
N: aluminium shell - nickel plating - ROHS compliant						
G: aluminium shell - olive drab cadmium plating						
BZ: marine bronze shell - ROHS compliant						
Nota: receptacle inserts are metallized						
Cordset length (for receptacles with "2" back termination only) - Other lengths are available on demand						
03 100 BTX: 0.3m [11.81 inches]						
05 100 BTX: 0.5m [19.68 inches]						
10 100 BTX: 1m [39.37 inches]						
15 100 BTX: 1.5m [59.05 inches]						
OPEN: open cable - with no plug at the end						
Remark: cabling configuration: 100 BTX = 568B (Ethernet specification)						

Examples:

- Series III, sealed jam nut receptacle, A coding, with female RJ45 Back termination, olive drab cadmium plating: **RJF TV 7HA 1 G**
- Series III, sealed square flange receptacle, A coding, with female RJ45 back termination, nickel plating: **RJF TV 2HA 1 N**
- Series III, sealed jam nut receptacle, A coding, 1.5m [59.05"] 100 BTX cordset, olive drab cadmium plating: **RJF TV 7HA 2 G15 100BTX**

NEW

RJF TV

For big insulation wire up to 1.6 mm



Special RJF TV plug dedicated to Ethernet cable with insulation wire from 1,1 to 1,6 mm.

Remark:

- compatible with any RJF TV receptacle
- for cables which are not compatible with standard RJ45 plug

Applications

- Robotics
- Industrial process control
- CNC machines
- Special machines
- Oil & Gas
- Motion control
- Data acquisition and transmission in harsh environment
- Tele-maintenance

Data transmission

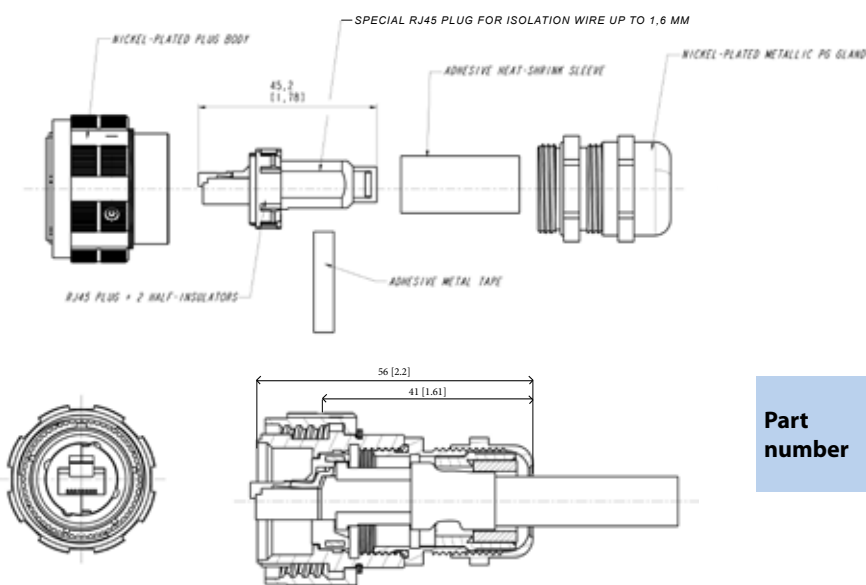
10 BaseT, 100 BaseTX and 1000 BaseT networks
Cat 5e per TIA/EIA 568B and ClassD per ISO/IEC 11801

Main characteristics

- Sealed against fluids and dusts (IP68)
- Shock, vibration and traction resistant
- No cabling operation in field and no tools required
- Mechanical coding / Polarization (4 positions)
- Improved EMI protection
- **Tri Start Thread coupling mechanism (MIL-DTL-38999 series III type) with anti-decoupling device - Shell size 19**
- **Robust metallic shells**
- RJ45 cordset retention in the plug: 100 N in the axis
- Mating cycles: 500 min
- Compatible with cable diameter from 6 mm [0.236 in] to 13 mm [0.512 in], for smaller diameters please consult us

Environmental protection

- Sealing: IP68
- Salt spray: 48 h with nickel plating
> 96 h with black coating
> 500 h with olive drab cadmium
- Fire retardant/Low smoke: UL94 V0 and NF F 16 101 & 16 102
- Vibrations: 10 – 500 Hz, 10 g, 3 axes: no discontinuity > 10 nano s.
- Shocks: IK06 ►weight of 250 g drop from 40 cm [15.75 in] onto connectors (mated pair)
- Humidity: 21 days, 43°C, 98% humidity
- Thermal shock: 5 cycles at - 40°C / +100°C
- Temperature range: - 40°C / +85°C



Part
number

Plating

P/N

Nickel - ROHS compliant

35660

Olive drab cadmium

35660G

NEW

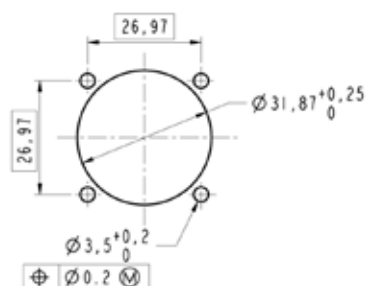
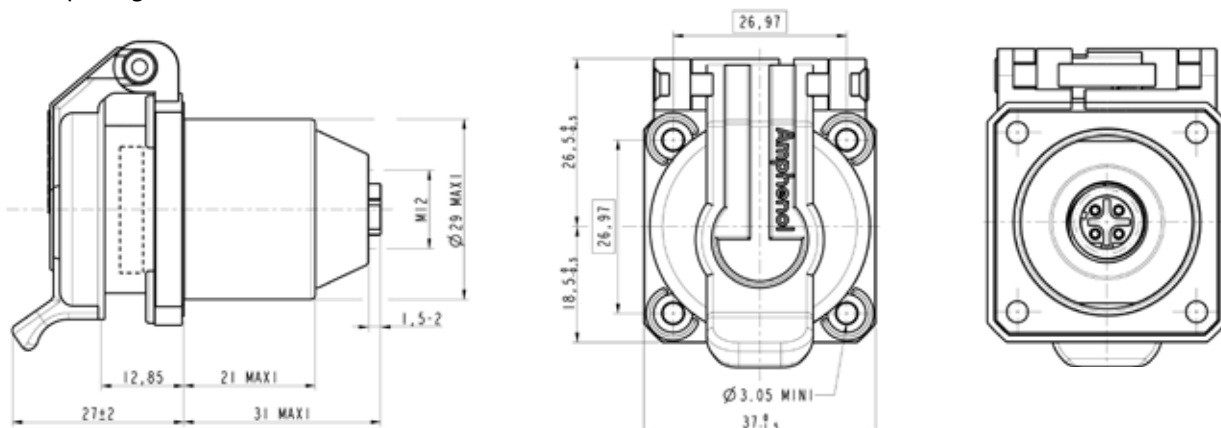
RJ45/M12 adaptor

RJ45/M12 adaptors allow to give an access point with RJ45 on M12 D coded based networks. Especially used in Railway applications.



Part number : 35655

Nickel plating.



M12-D	RJ45 contact position
1	1
2	3
3	2
4	6

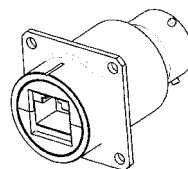
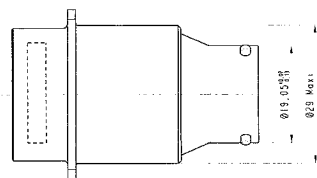
NEW

Special RJ45 adaptor

For Military & Commercial Aeronautics

At the rear of the adaptor, the connection is for connectors type EN3646.

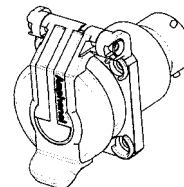
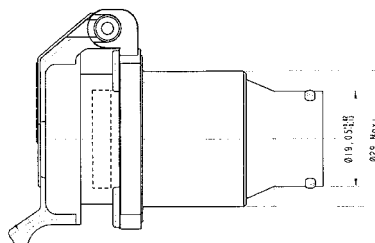
Adaptor RJ45 only



Part number	Coding
35629	N
35632	Y

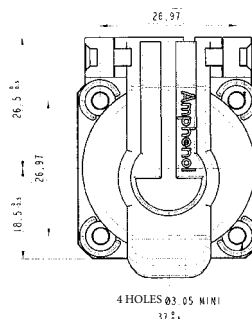
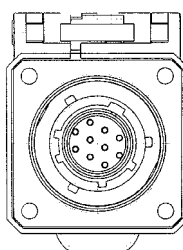
10,85±0,2 20 Maxi 9,75±0,2
1,6±0,3 36 Maxi

Adaptor RJ45 + Self Closing Cap



Part number	Coding
35630	N
35631	Y

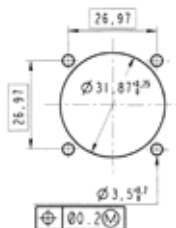
27±0,2 29 Maxi 9,75±0,2
36 Maxi



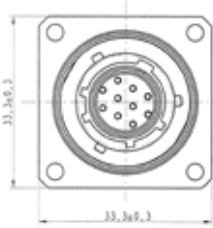
4 HOLES Ø3.05 MINI

For all options:

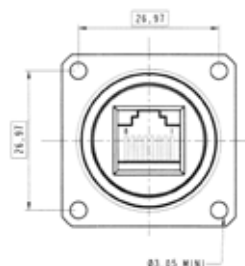
Panel Drilling



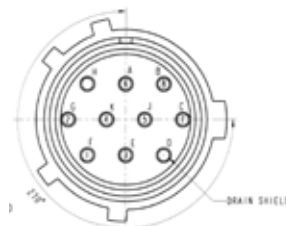
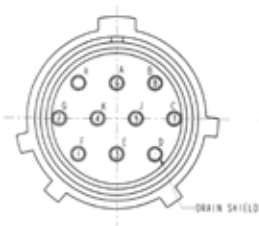
Coding N



12-10 Male contact
EN3155



Coding Y



CAT 5E CABLE

High reliability Cat 5e Ethernet cable & cordsets



Applications

- Robotics
- Motion control
- Railways
- CNC machines
- Battelfield communication
- Industrial process control

General construction

A 4 pair, 24 AWG, 100 Ohm SFTP round patch cable, designed to the ISO / IEC 11801 Category 5e requirements (cat 5e on 76m). The cable contains 4 twisted pairs, cabled, double shielded with kevlar reinforcement strands, jacketed in black UV resistant Polyurethane HFFR. Designed for fixed or portable applications in harsh environments.

HFFR: Halogen Free Flame Retardant

Jacket compound specification:

- Halogen free flame retardant polyether-based polyurethane
- Excellent hydrolysis resistance
- High microbial resistance
- Glossy finish
- UV resistant
- High flexibility

Datas for
the cable alone only
(without RJ45 plug)

Physical characteristics

CONDUCTORS	24 AWG (0,25 mm ²) tinned copper, 7x0.20 mm
INSULATION	Color coded 568-B, linear low Density Polyethylene, Nom. Dia. 0,039" (1mm)
ASSEMBLY	Pairs cabled with Kevlar strength members and separation tape wrapped
SHIELDS	Inner: aluminium mylar 100% coverage Outer: tinned copper braid 80% coverage
JACKET	Black, special PUR compound
WEIGHT	40 lbs / mft (59 kg/km)
OUTSIDE DIAM.	0.28" (7.1 mm) nom.
MIN BEND RADIUS (During installation)	67.5mm (9x O. D.)
MIN BEND RADIUS (During operation)	37.5mm (5 x O.D.)
MIN FLEXES TO FAILURE	Passes IEC 61156-6 requirements
TEMPERATURE	Plus 85°C, minus 40°C

Cordsets with a RJ45 plug overmolded on each end

Length (m/ft)	Part number
0,76 m / 2,5 ft	RJF SFTP 5E 0076
1,00 m / 3.28 ft	RJF SFTP 5E 0100
1,52 m / 5 ft	RJF SFTP 5E 0152
3,05 m / 10 ft	RJF SFTP 5E 0305
4,57 m / 15 ft	RJF SFTP 5E 0457
5,00 m / 16.4 ft	RJF SFTP 5E 0500
6,00 m / 19.68 ft	RJF SFTP 5E 0600
6,24 m / 20.46 ft	RJF SFTP 5E 0624
7,62 m / 25 ft	RJF SFTP 5E 0762
8,00 m / 26.24 ft	RJF SFTP 5E 0800
10,00 m / 32.78 ft	RJF SFTP 5E 1000
14,00 m / 45.92 ft	RJF SFTP 5E 1400
15,25 m / 50 ft	RJF SFTP 5E 1525
22,87 m / 75 ft	RJF SFTP 5E 2287
30,5 m / 100 ft	RJF SFTP 5E 3050
45,75 m / 150 ft	RJF SFTP 5E 4575
50,00 m / 164 ft	RJF SFTP 5E 5000
61,00 m / 200.08 ft	RJF SFTP 5E 6100

Electrical characteristics (at 20°C - 68°F)

DC Resistance	96 Ohms/Km	
Impedance (1-100 MHz)	100 +/- 15 Ohms	
Frequency	Attenuation (dB/100m)	N.E.X.T. (Near-End Crosstalk Loss)
772 KHz	2.70 dB	64 dB min.
1 MHz	3.15 dB	62 dB min.
4 MHz	6.45 dB	53 dB min.
10 MHz	9.90 dB	47 dB min.
16 MHz	12.3 dB	44 dB min.
20 MHz	13.8 dB	42 dB min.
31.25 MHz	17.7 dB	40 dB min.
62.5 MHz	25.6 dB	35 dB min.
100 MHz	33 dB	32 dB min.
Capacitance (1 kHz)	46nF/km nom.	
LCL	43 dB min. @ 64 KHz	
Capacitance unbalance	3.4 pF/m max. @ 1KHz (wire to ground)	
Insulation resistance	150 M Ohm min.	
Voltage rating	230 VMS	
Dielectric strength	VAC/1 min - 700 V/Min	
Propagation delay (100 MHz)	5.2 ns/m max.	
Delay skew	20 ns/100m max. @ 1-100 MHz	
Resistance unbalance	3% max.	
Structural return loss (1-20 MHz)	23db/100m min.	
Spark test (tested during production)	3 KV	
Velocity of propagation	67% nom.	

Reel of cable (without RJ45 plug on ends)

Length (m / ft)	Part number
100 m / ~328 ft	190-038045-00
300 m / ~984 ft	190-038045-01

CAT 6 CABLE

High reliability Cat 6 Ethernet cable & cordsets

NEW

ROHS
COMPLIANT



General construction

A 4 pairs, 26 AWG, 100 Ohm SFTP round patch cable, designed to the ISO / IEC 11801 Category 6 requirements. The cable contains 4 twisted pairs individually shielded, cabled, double shielded with kevlar reinforcement strands, jacketed in black UV resistant Polyurethane HFFR. Designed for fixed or portable applications in harsh environments.

HFFR: Halogen Free Flame Retardant

Jacket compound specification:

- Halogen free flame retardant polyether-based polyurethane
- Excellent hydrolysis resistance
- High microbial resistance
- Glossy finish
- UV resistant
- High flexibility

Applications

- Robotics
- Motion control
- Railways
- CNC machines
- Battlefield communication
- Industrial process control

Electrical characteristics (at 20°C - 68°F)

DC Resistance 290 Ohm/Km

Impedance (100 MHz) 100 +/- 5 Ohm

Frequency	Attenuation (dB/100m)	N.E.X.T. (Near-End Crosstalk Loss)
1 MHz	3.1 dB	75.3 dB min.
4 MHz	5.8 dB	66.3 dB min.
8 MHz	8.0 dB	61.8 dB min.
10 MHz	9.0 dB	60.3 dB min.
16 MHz	11.4 dB	57.2 dB min.
20 MHz	12.8 dB	55.8 dB min.
25 MHz	14.1 dB	54.3 dB min.
31.25 MHz	16.1 dB	52.8 dB min.
62.5 MHz	23.2 dB	48.4 dB min.
100 MHz	29.9 dB	45.3 dB min.
200 MHz	43.7 dB	40.8 dB min.
250 MHz	49.7 dB	39.3 dB min.

Capacitance (1 kHz) 50nF/km nom.

Capacitance unbalance 1600 pF/km max.

Insulation resistance 5 GOhm/km

Voltage rating (peak) 230 V

Dielectric strength VAC/1 min - 700 V/Min

Propagation delay 4.6 ns/m

Skew 45 ns/100m

Resistance unbalance 2%

Return loss (250 MHz) 15.6dB

Velocity of propagation 72% nom.

Reel of cable (without RJ45 plug on ends)

Length (m / ft)	Part number
100 m / ~328 ft	191-031179-00
300 m / ~984 ft	191-031179-01

Physical characteristics

*Datas for the cable
alone only
(without RJ45 plug)*

Conductors 26 AWG (0,14 mm²) tinned copper

Insulation Polyethylene
Nom. Dia. 0,039" (1mm)

Assembly Pairs cabled with Kevlar strength
members and separation tape wrapped

Shields Inner: aluminium mylar 100% coverage
Outer: tinned copper braid 80% coverage

Jacket Black, special PUR compound

Weight 36.9 lbs / mft (55 kg/km)

Outside diam. 0.272" (6.9 mm) nom.

Min bend radius 72mm (10x O.D.)
(During installation)

Min bend radius 36mm (5 x O.D.)
(During operation)

Min flexes to failure Passes IEC 61156-6 requirements

Temperature -40°C (-40°F) / + 85°C (185°F)

Cordsets with a RJ45 plug overmolded on each end

Length (m/ft)	Part number
0,75 m / 2,46 ft	RJF SFTP 6 0075
1,00 m / 3,28 ft	RJF SFTP 6 0100
1,50 m / 4,92 ft	RJF SFTP 6 0150
2,00 m / 6,56 ft	RJF SFTP 6 0200
2,50 m / 8,20 ft	RJF SFTP 6 0250
3,00 m / 9,84 ft	RJF SFTP 6 0300
3,50 m / 11,48 ft	RJF SFTP 6 0350
4,00 m / 13,12 ft	RJF SFTP 6 0400
4,50 m / 14,76 ft	RJF SFTP 6 0450
5,00 m / 16,40 ft	RJF SFTP 6 0500
6,00 m / 19,68 ft	RJF SFTP 6 0600
7,00 m / 22,96 ft	RJF SFTP 6 0700
8,00 m / 26,24 ft	RJF SFTP 6 0800
9,00 m / 29,52 ft	RJF SFTP 6 0900
10,00 m / 32,80 ft	RJF SFTP 6 1000
15,00 m / 49,20 ft	RJF SFTP 6 1500
20,00 m / 65,60 ft	RJF SFTP 6 2000
25,00 m / 82,00 ft	RJF SFTP 6 2500
30,00 m / 98,40 ft	RJF SFTP 6 3000
35,00 m / 114,80 ft	RJF SFTP 6 3500
40,00 m / 131,20 ft	RJF SFTP 6 4000
45,00 m / 147,60 ft	RJF SFTP 6 4500
50,00 m / 164,00 ft	RJF SFTP 6 5000
60,00 m / 196,80 ft	RJF SFTP 6 6000



CAT 6A CABLE

High reliability Cat 6A Ethernet cable & cordsets



General construction

A 4 pairs, 26 AWG, 100 Ohm SFTP round patch cable, designed to the ISO / IEC 11801 Category 6A requirements. The cable contains 4 twisted pairs individually shielded, cabled, double shielded with kevlar reinforcement strands, jacketed in black UV resistant Polyurethane HFFR. Designed for fixed or portable applications in harsh environments.

HFFR: Halogen Free Flame Retardant

Jacket compound specification:

- Halogen free flame retardant polyether-based polyurethane
- Excellent hydrolysis resistance
- High microbial resistance
- Glossy finish
- UV resistant
- High flexibility

Applications

- Robotics
- Motion control
- Railways
- CNC machines
- Battlefield communication
- Industrial process control

**Datas for
the cable alone only
(without RJ45 plug)**

Electrical characteristics (at 20°C - 68°F)

DC Resistance 290 Ohm/Km

Impedance (100 MHz) 100 +/- 5 Ohm

Frequency	Attenuation (dB/100m)	N.E.X.T. (Near-End Crosstalk Loss)
1 MHz	3.1 dB	75.3 dB min.
4 MHz	5.7 dB	66.3 dB min.
8 MHz	8.0 dB	61.8 dB min.
10 MHz	8.9 dB	60.3 dB min.
16 MHz	11.2 dB	57.2 dB min.
20 MHz	12.6 dB	55.8 dB min.
25 MHz	14.1 dB	54.3 dB min.
31.25 MHz	15.8 dB	52.8 dB min.
62.5 MHz	22.5 dB	48.4 dB min.
100 MHz	28.7 dB	45.3 dB min.
200 MHz	41.4 dB	40.8 dB min.
250 MHz	46.6 dB	39.3 dB min.
300 MHz	51.4 dB	38.1 dB min.
400 MHz	60.1 dB	36.3 dB min.
500 MHz	67.9 dB	34.8 dB min.

Capacitance (1 kHz) 50nF/km nom.

Capacitance unbalance 1600 pF/km max.

Insulation resistance 5 GOhm/km

Voltage rating (peak) 230 V

Dielectric strength VAC/1 min - 700 V/Min

Propagation delay 4.6 ns/m

Skew 45 ns/100m

Resistance unbalance 2%

Return loss (500 MHz) 15.6dB

Velocity of propagation 72% nom.

Reel of cable (without RJ45 plug on ends)

Length (m / ft)	Part number
100 m / ~328 ft	191-031190-00
300 m / ~984 ft	191-031190-01

Physical characteristics

Conductors 26 AWG (0,14 mm²) tinned copper

Insulation Density Polyethylene,
Nom. Dia. 0,039" (1mm)

Assembly Pairs cabled with Kevlar strength
members and separation tape wrapped

Shields Inner: aluminium mylar 100% coverage
Outer: tinned copper braid 80% coverage

Jacket Black, special PUR compound

Weight 36.9 lbs / mft (55 kg/km)

Outside diam. 0.272" (6.9 mm) nom.

Min bend radius 72mm (10x O. D.)
(During installation)

Min bend radius 36mm (5 x O.D.)
(During operation)

Min flexes to failure Passes IEC 61156-6 requirements

Temperature -40°C (-40°F) / + 85°C (185°F)

Cordsets with a RJ45 plug overmolded on each end

Length (m/ft)	Part number
0,75 m / 2,46 ft	RJF SFTP 6A 0075
1,00 m / 3,28 ft	RJF SFTP 6A 0100
1,50 m / 4,92 ft	RJF SFTP 6A 0150
2,00 m / 6,56 ft	RJF SFTP 6A 0200
2,50 m / 8,20 ft	RJF SFTP 6A 0250
3,00 m / 9,84 ft	RJF SFTP 6A 0300
3,50 m / 11,48 ft	RJF SFTP 6A 0350
4,00 m / 13,12 ft	RJF SFTP 6A 0400
4,50 m / 14,76 ft	RJF SFTP 6A 0450
5,00 m / 16,40 ft	RJF SFTP 6A 0500
6,00 m / 19,68 ft	RJF SFTP 6A 0600
7,00 m / 22,96 ft	RJF SFTP 6A 0700
8,00 m / 26,24 ft	RJF SFTP 6A 0800
9,00 m / 29,52 ft	RJF SFTP 6A 0900
10,00 m / 32,80 ft	RJF SFTP 6A 1000
15,00 m / 49,20 ft	RJF SFTP 6A 1500
20,00 m / 65,60 ft	RJF SFTP 6A 2000
25,00 m / 82,00 ft	RJF SFTP 6A 2500
30,00 m / 98,40 ft	RJF SFTP 6A 3000
35,00 m / 114,80 ft	RJF SFTP 6A 3500
40,00 m / 131,20 ft	RJF SFTP 6A 4000
45,00 m / 147,60 ft	RJF SFTP 6A 4500
50,00 m / 164,00 ft	RJF SFTP 6A 5000
60,00 m / 196,80 ft	RJF SFTP 6A 6000

NOTES

Handwriting practice lines consisting of 20 horizontal dotted lines.

Rugged Ethernet Solutions



Cable assemblies



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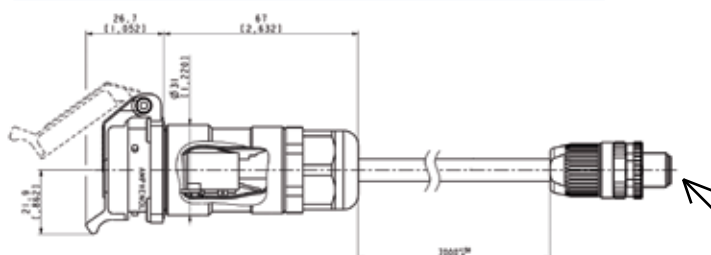
RJ45/M12: Ethernet Railway cable solution	46
JUMPER Railway intercoach	47

NEW

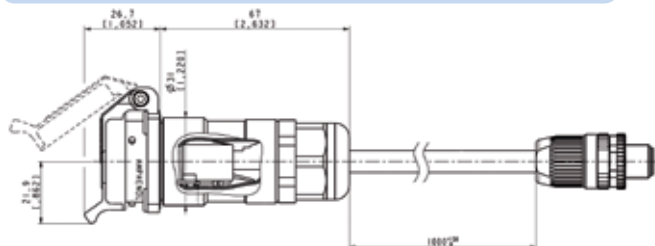
RJ45/M12: Ethernet railway cable solution



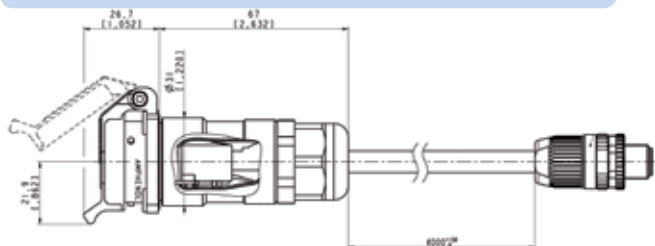
Part number: **Kit 36516** - Length 7 m [22.96 ft]



Part number: **Kit 36520** - Length 1 m [3.28 ft]

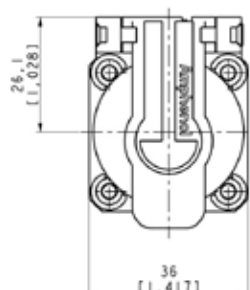
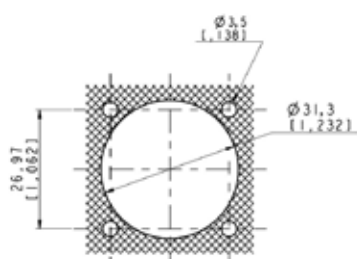


Part number: **Kit 36530** - Length 4 m [13.12 ft]



M12 D Coding

For all options:



CODAGE A
A CODING





JUMPER railway intercoach

Derived from RJFTV Series

Note: for technical characteristics, please refer to RJFTV page 26.

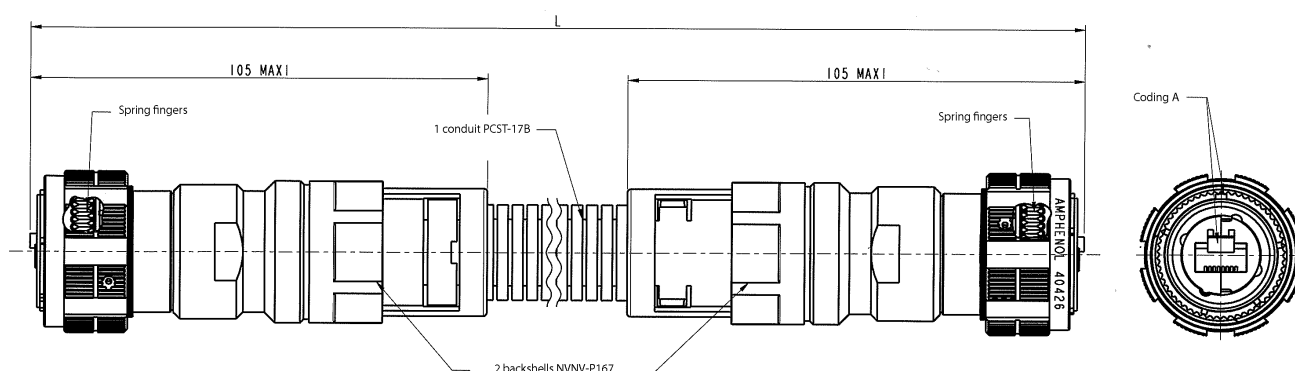


Kit 40426 includes:

- 2 RJF TV plugs with EMI backshell assembled (coding A)
- 1 RJF SFTP cable cat 5E high reliability
- 1 conduit PCST-17B
- 2 PMAFIX straight, PG metal thread

Part number	$L \begin{smallmatrix} +100 \\ 0 \end{smallmatrix}$	P/N
	2465	Kit 40426 Rep 101
	3010	Kit 40426 Rep 102

For any other lenght, please consult us: contact@rjfield.com



NOTES

Handwriting practice lines consisting of 20 horizontal dotted lines.

Rugged Ethernet Solutions



Rugged electronics

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NEW	Military Ethernet Switch for harsh environment, fully MIL-STD compliant	
	RES-SCE-AC-8US: Unmanaged Miniature Portable Ethernet Switch - 8 Fast ports	56
	RES-SCE-8MG: Managed Miniature Portable Ethernet Switch - 8 Gigabit ports	58
	RESMLAC-8US-CAPS: Unmanaged Military Ethernet Switch, MIL-DTL-38999 connectors - 8 Fast ports	60
	RJSMAC-8UG-CAPS: Unmanaged Military Ethernet Switch, RJFTV connectors - 8 Gigabit ports	62
	RJSMAC-8MG-CAPS: Managed Military Ethernet Switch, RJFTV connectors - 8 Gigabit ports	64
	RESMLAC-8MG-CAPS: Managed Military Ethernet Switch, MIL-DTL-38999 connectors - 8 Gigabit ports	66
	RESMLAC-8MG-CAPS F35: Managed Military Ethernet Switch, MIL-DTL-38999 connectors - 8 Gigabit ports	68
	RESMLAC-28MG: Managed Military Ethernet Switch - 24 Gigabit + 4 combo 10G ports	70
	Military Ethernet Switch for harsh environment with industrial EMI compliancy	
	RJSMAC-8US1 and RJSMAC-8UG1: Unmanaged Military Ethernet Switch, Fast or Gigabit	73
	RJSMAC-MG7F3G: Managed Military Ethernet Switch - 7 Fast ports + 3 Gigabit ports	77
	Industrial Ethernet Switch for harsh environment	
	RJSPC: Unmanaged or Ring Industrial Ethernet Switch - 5 Fast ports	81

NEW

RES-GMC with Expanded Beam Technology Military Ethernet Media Converter

For harsh environment - Fully MIL-STD compliant

Amphenol's RES-GMC is a MIL-STD rugged, unmanaged-military-grade security gateway, offering up to 2 Gigabit security gateways per device for unidirectional and data diodes solution for total isolation between two network with different security classification. The unit supports PoE on 2 ports (IEEE802.3af and IEEE802.3at).

Developed for military and harsh environment applications, the RES-GMC features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability.

The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-D-38999 circular connectors.

Leveraging best-in-class switching technology, the RES-GMC series serves as a robust solution to extend your Tactical Gigabit Ethernet network connectivity of up to 120Km over fiber. Compact in size, the RES-GMC is particularly useful for remote and space-constrained locations either on ground vehicle environments or airborne.

Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Combat vehicles
- Avionic & shipboard systems



Key features

■ Ethernet ports

- 10/100/1000 Base TX to 100/1000 Base FX-(MM/SM) Media converter (WDM - Optional)
- Up to 2 x 10/100/1000Base-TX and up to 2 x 100/1000 Base FX

■ Networking

- Full wire-speed forwarding rate
- Option for Up to 2 ports PoE - IEEE802.3af, IEEE802.3at
- Store-and-forward or Pass through mechanism
- Auto MDI-II, MDI-X, FDX, HDX, Flow control
- Auto-negotiation and fixed settings via DIP switch
- Jumbo frame support
- Link loss forwarding mechanism

■ Connectors

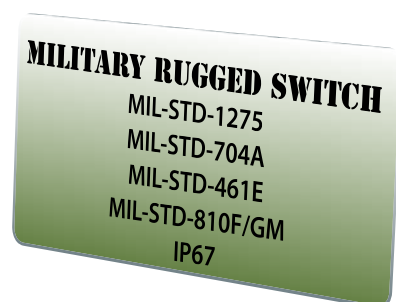
- MIL-D-38999 (Power & Ethernet signals)
- Power connector type: D38999/24WA98PA
- LAN connector type: RJFTV
- Fiber connector type: CTOS 77 PC or TAC BEAM EB 4H 8000
- Protective cap over each connector

■ Chassis

- Low profile rugged aluminium extrusion
- Conductively cooled w/custom internal heat-sinks
- Ingress protection against sand, dust and moisture
- Anodize coating, MIL-A-8625, Type II, Class 2

■ Standards

- MIL-STD-1275, MIL-STD-704A, MIL-STD-461E,
- MIL-STD-810F GM, IP67/68



Product specifications

Performance

- 26.8 Mpps wire speed forwarding rate
- 2 Gbps maximum forwarding bandwidth
- 4K MAC address
- 2 LED indication (Speed, Link/Activity) per port
- Wire-speed reception and transmission

Standards compliance

- IEEE 802.3, 10 Mbps 10BASE-T (Ethernet)
- IEEE 802.3u, 100 BASE-TX 100 Mbps (Fast Ethernet)
- IEEE 802.3ab, 1000Base-TX
- IEEE 802.3z, 1000Base-FX Gigabit
- IEEE 802.3x Flow control

Power

- MIL-STD-1275B & MIL-STD-704A Surge and Spike protection
- Voltage input: 24Vdc nominal (18-36V)
- Power consumption: 2.8W typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E Electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental : shock/vibration/humidity

- MIL-STD-810F, 501.4I, 501.4II, 502.4I, 502.4II, 507.4, 500.4II, 514, 516I, 516VI, 514.5, 512.4
- IP67/68

Physical

- Dimensions: 169mm (L) x 149 (W) x 65(H), including connectors & hardware
- Weight: 1.260 kg

Installation

- Set of Four 4x4.5 mounting holes on bottom for mounting to any flat surface.
- Carrying handles - Optional

Cooling

- No moving parts. Passive cooling.

Operating temp

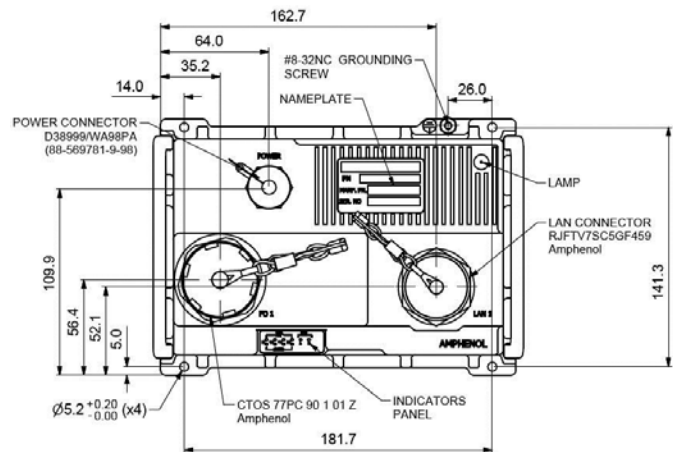
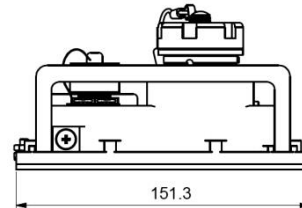
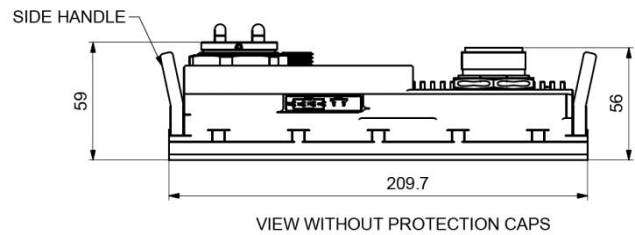
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RES-GMC-1M-RJF-CTOS	• MIL-STD Rugged Ethernet Media Converter with CTOS fiber connector • 1 x 10/100/1000TX to 1000SX, MM
	RES-GMC-1S-RJF-CTOS	• MIL-STD Rugged Ethernet Media Converter with CTOS fiber connector • 1 x 10/100/1000TX to 1000LX, SM, 10 KM
	RES-GMC-1M-RJF-TACBEAM	• MIL-STD Rugged Ethernet Media Converter with TAC BEAM fiber connector • 2 x 10/100/1000TX to 2 x 1000SX, MM
	RES-GMC-1S-RJF-TACBEAM	• MIL-STD Rugged Ethernet Media Converter with TAC BEAM fiber connector • 2 x 10/100/1000TX to 2 x 1000LX, SM, 10 KM

► For accessories, please consult us.

RES-GMC with Butt Joint Fiber Connector Military Ethernet Media Converter

For harsh environment - Fully MIL-STD compliant

Amphenol's RES-GMC is a MIL-STD rugged, unmanaged-military-grade security gateway, offering up to 2 Gigabit security gateways per device for unidirectional and data diodes solution for total isolation between two network with different security classification. The unit supports PoE on 2 ports (IEEE802.3af and IEEE802.3at).

Developed for military and harsh environment applications, the RES-GMC features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability.

The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-D-38999 circular connectors.

Leveraging best-in-class switching technology, the RES-GMC series serves as a robust solution to extend your Tactical Gigabit Ethernet network connectivity of up to 120Km over fiber. Compact in size, the RES-GMC is particularly useful for remote and space-constrained locations either on ground vehicle environments or airborne.

Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Combat vehicles
- Avionic & shipboard systems

Key features

■ Ethernet ports

- 10/100/1000 Base TX to 100/1000 Base FX-(MM/SM) Network isolator
One way data flow for total isolation between classified and unclassified networks
- Up to 2 security gateways per device over optical fiber

■ Networking

- Full wire-speed forwarding rate
- Option for Up to 2 ports PoE - IEEE802.3af, IEEE802.3at
- Auto MDI-II, MDI-X, FDX, HDX, Flow control
- Auto-negotiation and fixed settings via DIP switch
- Jumbo frame support
- Option for one way fiber security

■ Connectors

- MIL-D-38999 (Power & Ethernet signals)
- Power connector type: D38999/24WA98PN
- LAN connector type: D38999/24WB35SN (2 ports model)
or RJFTV (1 port model)
- Fiber connector type: TVOP arrangement 11-02

■ Chassis

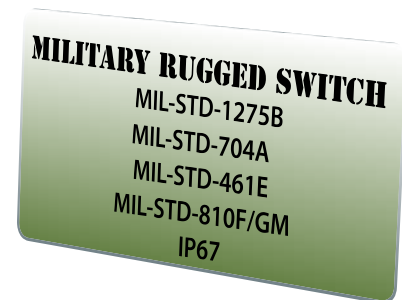
- Low profile rugged aluminium extrusion
- Conductively cooled w/custom internal heat-sinks
- Ingress protection against sand, dust and moisture
- Anodize coating, MIL-A-8625, Type II, Class 2

■ Standards

- MIL-STD-1275, MIL-STD-704A, MIL-STD-461E,
- MIL-STD-810F GM, IP67/68

■ Voltage operation

- 24VDC (18VDC ~ 36VDC), 48VDC for PoE versions



Product specifications

Performance

- 26.8 Mpps wire speed forwarding rate
- 20 Gbps maximum forwarding bandwidth
- 4K MAC address
- 2 LED indication (Speed, Link/Activity) per port
- Wire-speed reception and transmission

Standards compliance

- IEEE 802.3, 10 Mbps 10BASE-T (Ethernet)
- IEEE 802.3u, 100 BASE-TX 100 Mbps (Fast Ethernet)
- IEEE 802.3ab, 1000Base-TX
- IEEE 802.3z, 1000Base-FX Gigabit
- IEEE 802.3af, IEEE802.3at

Power

- MIL-STD-1275B & MIL-STD-704A Surge and Spike protection
- Voltage input: 24Vdc nominal (18-36V)
- Power consumption: 2.8W typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E Electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental : shock/vibration/humidity

- MIL-STD-810F, 501.4I, 501.4II, 502.4I, 502.4II, 507.4, 500.4II, 514, 516I, 516VI, 514.5, 512.4
- IP67/68

Physical

- Dimensions: 170mm(L) x 150(W) x 65(H), including connectors & hardware
- Weight: 1 kg

Installation

- Set of Four 4x4.5 mounting holes on bottom for mounting to any flat surface.
- Carrying handles - Optional

Cooling

- No moving parts. Passive cooling.

Operating temp

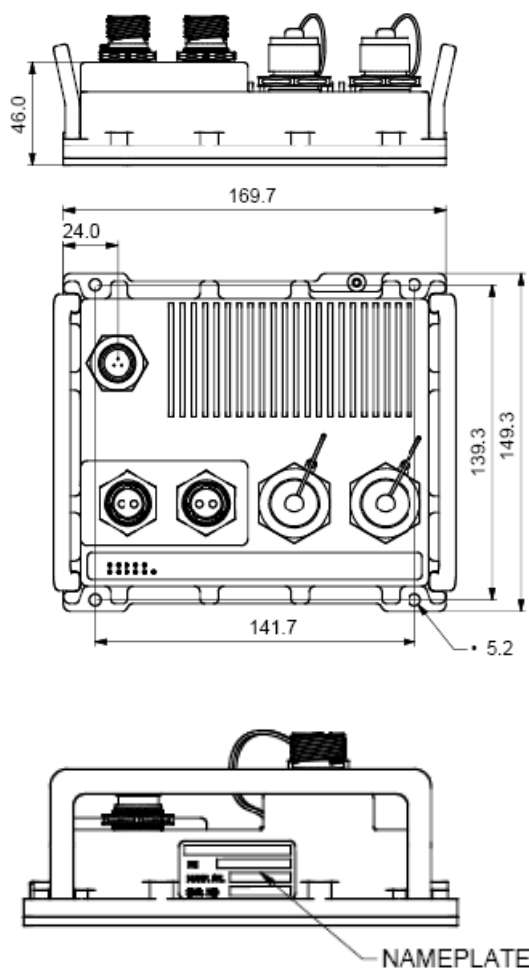
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RES-GMC-1M	• MIL-STD Rugged Ethernet Media Converter with TVOP connector • 1 x 10/100/1000TX to 1000SX, MM
	RES-GMC-1S	• MIL-STD Rugged Ethernet Media Converter with TVOP connector • 1 x 10/100/1000TX to 1000LX, SM, 10 KM
	RES-GMC-2M	• MIL-STD Rugged Media Converter with TVOP connector • 2 x 10/100/1000TX to 2 x 1000SX, MM
	RES-GMC-2S	• MIL-STD Rugged Media Converter with TVOP connector • 2 x 10/100/1000TX to 2 x 1000LX, SM, 10 KM

► For accessories, please consult us.

RES-GMC-1M-FORC

Military Ethernet Media Converter with Remote Control

For fiber extension of existing systems on the Field

Amphenol's RES-GMC-1M-FORC is a MIL-STD rugged, unmanaged-military-grade Media converter, offering one Gigabit copper ports 10/100/1000Base-TX and one 100/1000Base-SX fiber ports.

Combining the RES-GMC-1M-FORC with a fiber drum, your network will be extended on the field.

- Simply add 2 media converters unit 1 and unit 2 + a fiber drum
- Use our special feature: unit 2 is remote controlled by unit 1

Due to extreme low consumption of unit 2 in STANDBY mode, your battery on the field will operate longer.

Developed for military and harsh environment applications, the RES-GMC-1M-FORC features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability.

The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-D-38999 circular connectors.

Leveraging best-in-class technology, the RES-GMC-1M-FORC series serves as a robust solution to extend your Tactical Gigabit Ethernet network connectivity over fiber.

Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Combat vehicles

Where your system can be extended through network.



Unit 1



Fiber drum

Key features

- **Ethernet ports**
 - 10/100/1000 Base TX to 100/1000 Base SX-MM) Media converter
- **Networking**
 - Full wire-speed forwarding rate
 - Store-and-forward or Pass through mechanism
 - Auto MDI-II, MDI-X, FDX, HDX, Flow control
 - Auto-negotiation and fixed settings via DIP switch
 - Jumbo frame support
 - Link loss forwarding mechanism
- **Connectors**
 - MIL-D-38999 (Power & Ethernet signals)
 - Fiber connector type: CTOS 77 PC (2 fibers for Ethernet, 1 fiber for remote control)
 - Protective caps over each connector
- **Chassis**
 - Low profile rugged aluminium extrusion
 - Conductively cooled w/custom internal heat-sinks
 - Ingress protection against sand, dust and moisture
 - Anodize coating, MIL-A-8625, Type II, Class 2
 - Color: sand mate
- **Standards**
 - MIL-STD-1275, MIL-STD-704A, MIL-STD-461E,
 - MIL-STD-810F GM, IP67/68



Unit 2

MILITARY RUGGED SWITCH
 MIL-STD-1275B
 MIL-STD-704A
 MIL-STD-461E
 MIL-STD-810F/GM
 IP67

Product specifications

Performance

- 26.8 Mpps wire speed forwarding rate
- 2 Gbps maximum forwarding bandwidth
- 4K MAC address
- 2 LED indication (Speed, Link/Activity) per port
- Wire-speed reception and transmission

Standards compliance

- IEEE 802.3, 10 Mbps 10BASE-T (Ethernet)
- IEEE 802.3u, 100 BASE-TX 100 Mbps (Fast Ethernet)
- IEEE 802.3ab, 1000Base-TX
- IEEE 802.3z, 1000Base-FX Gigabit
- IEEE 802.3x Flow control

Power

- MIL-STD-1275B & MIL-STD-704A Surge and Spike protection
- Voltage input: 24Vdc nominal (18-36V)
- Power switching of the external DC input of unit 2 upon ON/OFF command from unit 1
- Maximum power consumption: 5W for unit 1, 10W for unit 2
- Standby consumption of unit 2: <0.1W
- Chassis grounding

Electromagnetic

- MIL-STD-461E Electromagnetic compatibility

Environmental : shock/vibration/humidity

- MIL-STD-810F, 501.4I, 501.4II, 502.4I, 502.4II, 507.4, 500.4II, 514, 516I, 516VI, 514.5, 512.4
- IP67/68

Physical

- Dimensions: 170mm(L) x 140(W) x 110(H), including connectors & hardware
- Weight: 1.55kg for unit 1, 1.80kg for unit 2

Installation

- Set of Four 4x4.3 mounting holes on bottom for mounting to any flat surface.

Cooling

- No moving parts. Passive cooling.

Operating temp

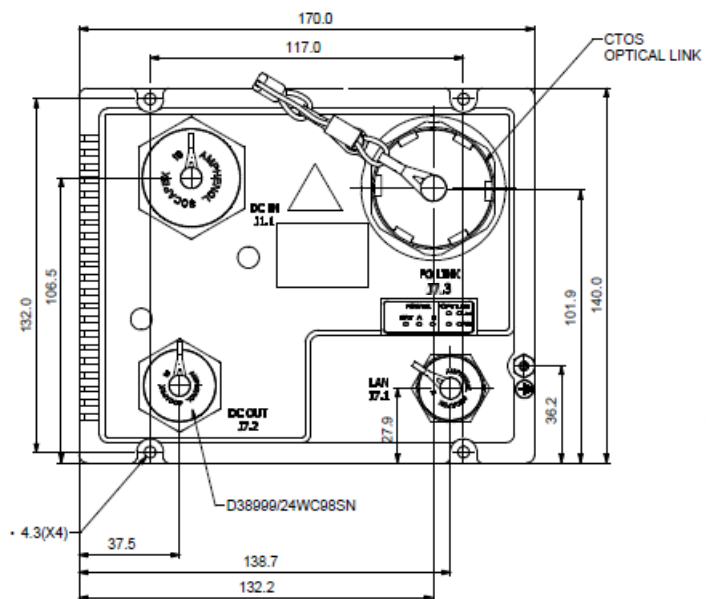
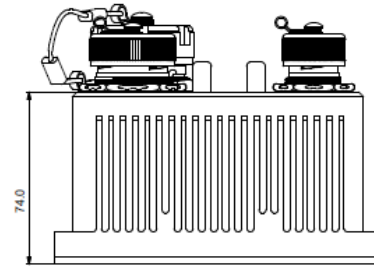
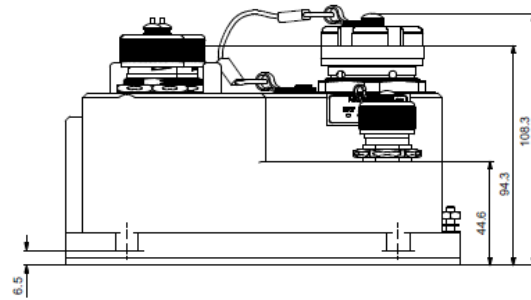
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RES-GMC-1M-FORC-1	MIL-STD Rugged Gigabit Media Converter unit 1, 1x RJF connector, 1x fiber CTOS connector, MM, SX
	RES-GMC-1M-FORC-2	MIL-STD Rugged Gigabit Media Converter unit 2, 1x RJF connector, 1x fiber CTOS connector, MM, SX, remote controlled by unit 1
	CTOS drum	Please consult us

► For accessories, please consult us.

RES-SCE-AC-8US

Unmanaged miniature portable Ethernet switch - 8 fast ports

Military ethernet switch for harsh environment - Fully MIL-STD compliant

Amphenol's RES-SCE-AC-8US is a MIL-STD rugged, unmanaged-military-grade Ethernet switch, offering 8 Fast Ethernet 10/100 Ports. The portable rugged Ethernet switch is intended for Command Post Man Packable.

Developed for mobile portable military and harsh environment applications, the RES-SCE-AC-8US features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-SCE circular connectors.

Leveraging best-in-class switching technology, the RES-SCE-AC-8US serves as a robust solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. Compact in size, the RES-SCE-AC-8US is particularly useful for expanding port density in space-constrained airborne and ground vehicle environments.

Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Mobile communications
- Combat vehicles
- Avionic & shipboard systems



Key features

- **Ethernet ports**
 - 8 x switched 10/100 (Fast Ethernet) ports
- **Networking**
 - Full wire-speed forwarding rate
 - Store-and-forward mechanism
 - Auto MDI-II, MDI-X
 - Auto-negotiation protocol
 - Address look-up
- **Connectors**
 - Power + LAN connector : SCE2-B-76A06-07SN-001
- **Chassis**
 - Low profile rugged aluminium extrusion
 - Conductively cooled w/ custom internal heat-sinks
 - Ingress protection against sand, dust and moisture
 - Anodize coating, MIL-A-8625, Type II, Class 2
- **Standards**
 - MIL-STD-461E, MIL-STD-810F/G/GM, IP67/68
- **Voltage operation**
 - 5VDC (USB) INPUT, shared with LAN Port Number 1



Product specifications

Performance

- 128K byte of SRAM for frame buffering
- 2.0 Gbps high-performance memory bandwidth
- LED indication (speed, link/activity) per port - Optional
- Wire-speed reception and transmission
- Integrated address look-up engine
- Automatic address learning

Standards compliance

- IEEE 802.3 10 Mbps 10BASE-T (Ethernet)
- IEEE 802.3u 100BASE-TX 100 Mbps (Fast Ethernet)
- IEEE 802.3x flow control

Power

- Voltage input: 5Vdc nominal - Optional USB sourcing
- Power consumption: 2W typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental

- MIL-STD-810F/G/GM
- Random vibration (514.5I), Bench handling (516.6VI), High temp (501.5I, II), Low temp (502.5I), Humidity (507.5II), Air pressure (500.5I, II), Blowing rain (506.5I), Immersion (512.5I), Salt atmosphere (509.5I), Blowing dust (510.5I), Loose cargo vibration (514.6II), Wind analysis
- IP67/68

Physical

- Dimensions: 82.2mm (L) x 61.4 (W) x 26 (H), Not including connectors Dust Caps.
- Weight: 140g - Not including dust caps

Installation

- Portable, flat for mounting to any flat surface.

Cooling

- No moving parts. Passive cooling.

Operating temp

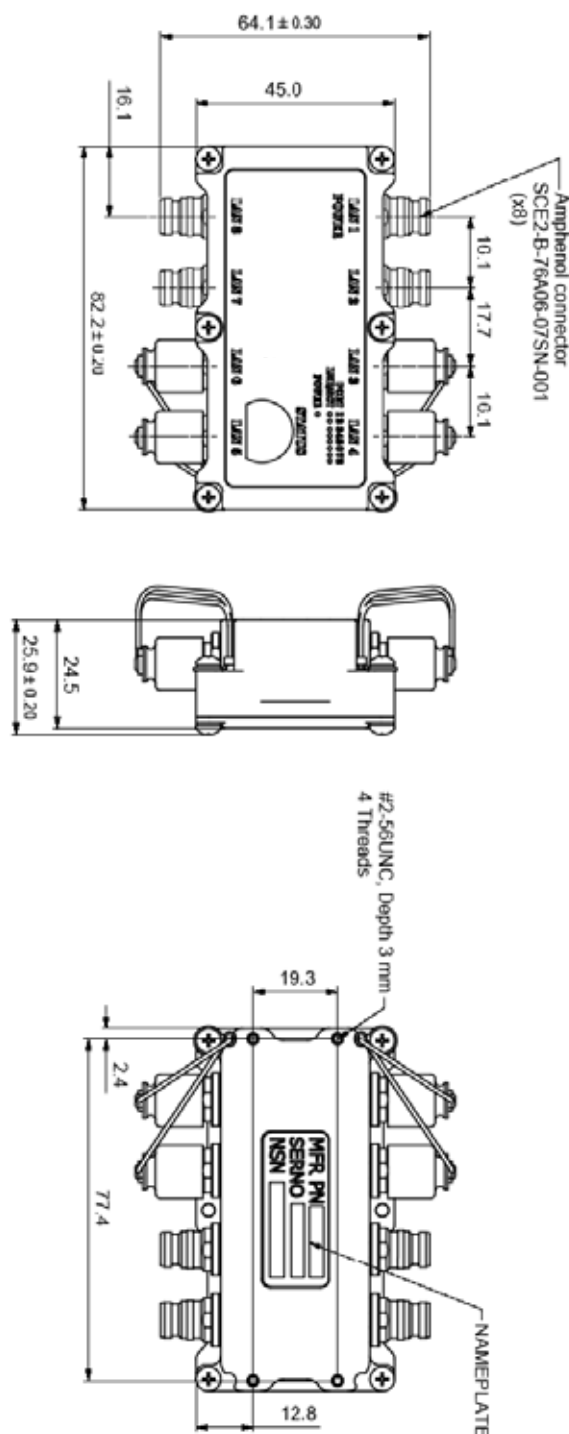
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RES-SCE-AC-8US	• RES-SCE-AC-8US • MIL-STD Rugged • 8 x 10/100TX • Unmanaged switch
	RES-SCE-CBL-1M50	• Starter cable set for MILTECH-308 • MIL-SCE to RJ-45 connectors • 1m50 (5 feet) length (Data or Data+Power)

► For accessories, please consult us.

RES-SCE-8MG

Managed miniature portable Ethernet switch - 8 Gigabit ports

Military ethernet switch for harsh environment - Fully MIL-STD compliant

Amphenol's RES-SCE-8MG is a MIL-STD rugged, managed-military-grade Ethernet switch, offering 8 Gigabit Ethernet 10/100/1000 Ports. The portable rugged Ethernet switch is intended for Command Post Man Packable.

Developed for mobile portable military and harsh environment applications, the RES-SCE-8MG features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed miniature circular connectors.

Leveraging best-in-class switching technology, the RES-SCE-8MG serves as a robust solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. Compact in size, the RES-SCE-8MG is particularly useful for expanding port density in space-constrained airborne and ground vehicle environments.

Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Mobile communications
- Combat vehicles
- Avionic & shipboard systems

Key features

- **Ethernet ports**
 - Managed 8 x switched 10/ 100/ 1000 ports
- **Networking**
 - Spanning Tree (802.1d), RSTP (802.1w) and multiple Spanning Tree (802.1S) for fast recovery rings
 - Security via Radius Authentication 802.1x, Port Security, Port Mirroring
 - Multicasting (IGMP Snooping), GARP, GMRP, and GVRP Broadcasting and flooding Control up to 8K Groups
 - 802.1q Tagged based VLAN up to 4K VLAN groups
 - QoS Multi-Layer Classifier, 802.1p, ToS/DSCP traffic classification. WFQ, Strict Queuing.
 - Bridge support for Q-in-Q
 - Link Aggregation 802.3AD
 - WEB, CLI, Telnet Management
- **Connectors**
 - Power connector type: SCE2-B-76A06-07SN
 - LAN connector type: SCE2-B-76A07-14SN-001
 - LED indication per port (speed, link/activity)
- **Chassis**
 - Low profile rugged aluminium extrusion
 - Conductively cooled w/ custom internal heat-sinks
 - Ingress protection against sand, dust and moisture
 - Anodize coating, MIL-A-8625, Type II, Class 2
- **Standards**
 - MIL-STD-1275, MIL-STD-704A, MIL-STD-461E, MIL-STD-810F GM, IP67/68
- **Performance**
 - 26.8 Mpps wire speed forwarding rate
 - 20 Gbps maximum forwarding bandwidth
 - 8K MAC address



MILITARY RUGGED SWITCH
 MIL-STD-1275B
 MIL-STD-704A
 MIL-STD-461E
 MIL-STD-810F/GM
 IP67

Product specifications

Standards compliance

- IEEE 802.1x MAC based Authentication
- IEEE 802.1Q Vlan Tagging
- IEEE 802.1P QoS
- IEEE 802.1S Multiple STP
- IEEE 802.1W Rapid STP
- IEEE 802.3 AD Link Aggregation

Power

- Exceed MIL-STD-1275B Surge and Spike protection
- Voltage Input: 24Vdc Nominal (16-36 VDC)
- Power Consumption: 7.2W Max - 5W Typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E Electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental

- MIL-STD-810F/G/GM
- Random vibration (514.5I), Bench handling (516.6VI), High temp (501.5I, II), Low temp (502.5I), Humidity (507.5II), Air pressure (500.5I, II), Blowing rain (506.5I), Immersion (512.5I), Salt atmosphere (509.5I), Blowing dust (510.5I), Loose cargo vibration (514.6II), Wind analysis
- IP67/68

Physical

- Dimensions: 100mm (L) x 89 (W) x 36 (H), including connectors & hardware.
- Weight: 390g

Installation

- Set of Four 4-40 threads on bottom for mounting to any flat surface

Cooling

- No moving parts. Passive cooling.

Operating temp

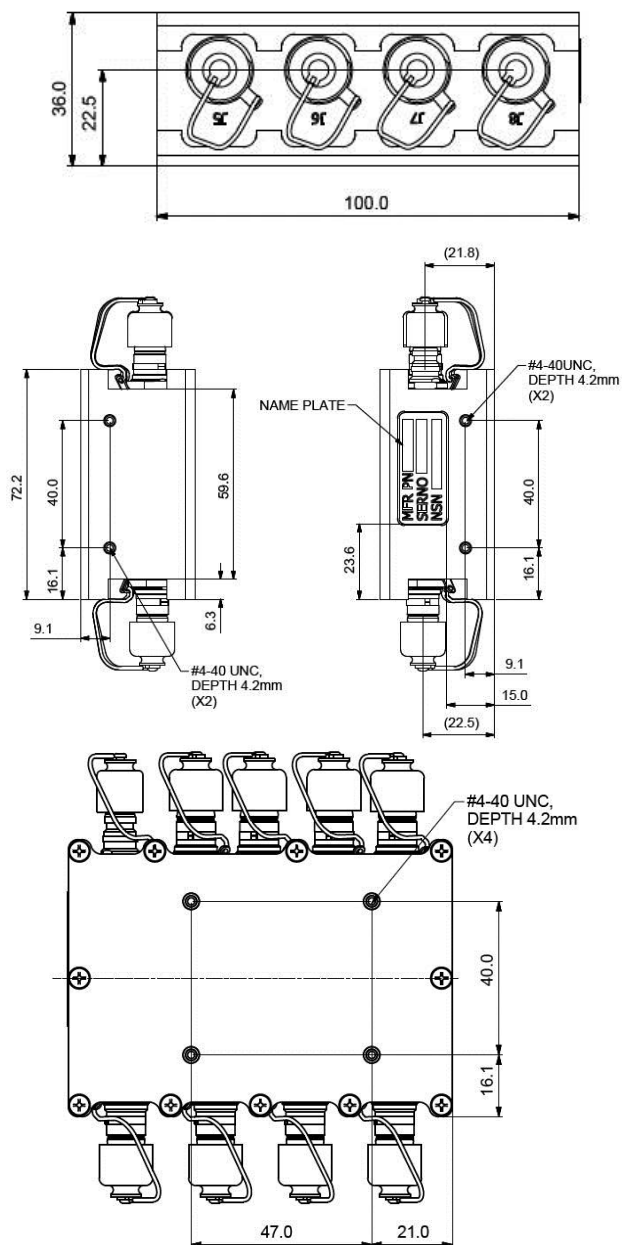
- -35°C to +75°C (-31°F to +167°F) / -35° C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RES-SCE-8MG	• MIL-STD Rugged • Managed miniature switch • 8 x 10/100/1000TX • With caps
	RES-SCE-8MG-CBL-ETH-RJ45-2M	• Ethernet cordset for LAN 1 to 8 • With RJ45FTP5E cable • RJ45 end plug • 2 m long

► For accessories, please consult us.

RESMLAC-8US-CAPS

Unmanaged military Ethernet switch, MIL-DTL-38999 connectors 8 fast ports

Military ethernet switch for harsh environment - Fully MIL-STD compliant

Amphenol's RESMLAC-8US-CAPS is a MIL-STD rugged, unmanaged-military-grade Ethernet switch, offering 8 Fast Ethernet 10/100 Ports.

Developed for military and harsh environment applications, the RESMLAC-8US-CAPS features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-D-38999 circular connectors.

Leveraging best-in-class switching technology, the RESMLAC-8US-CAPS serves as a robust solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. Compact in size, the RESMLAC-8US-CAPS is particularly useful for expanding port density in space-constrained airborne and ground vehicle environments.

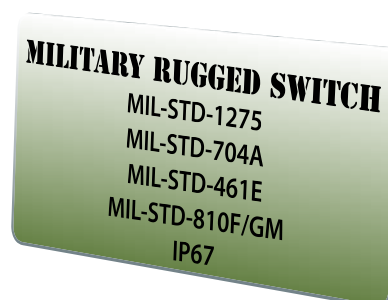
Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Mobile communications
- Combat vehicles
- Avionic & shipboard systems



Key features

- **Ethernet ports**
 - 8 x switched 10/100 (Fast Ethernet) ports
- **Networking**
 - Full wire-speed forwarding rate
 - Store-and-forward mechanism
 - Auto MDI-II, MDI-X
 - Auto-negotiation protocol
 - Address look-up
- **Connectors**
 - MIL-D-38999 (Power & Ethernet signals)
 - Power connector type: D38999/24WA98PA
 - LAN connector type: D38999/24WA35SN
- **Chassis**
 - Low profile rugged aluminium extrusion
 - Conductively cooled w/ custom internal heat-sinks
 - Ingress protection against sand, dust and moisture
 - Anodize Coating, MIL-A-8625, Type II, Class 2
- **Standards**
 - MIL-STD-1275, MIL-STD-704A, MIL-STD-461E, MIL-STD-810F GM, IP67/68
- **Voltage operation**
 - 24VDC (18VDC ~ 36VDC)



Product specifications

Performance

- 128K byte of SRAM for frame buffering
- 2.0 Gbps high-performance memory bandwidth
- 2 LED indication (speed, link/activity) per port
- Wire-speed reception and transmission
- Integrated address look-up engine
- Automatic address learning

Standards compliance

- IEEE 802.3 10 Mbps 10BASE-T (Ethernet)
- IEEE 802.3u 100BASE-TX 100 Mbps (Fast Ethernet)
- IEEE 802.3x flow control

Power

- MIL-STD-1275B & MIL-STD 704A surge and spike protection
- Voltage input: 24Vdc nominal (18-32V)
- Power consumption: 2.8W typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental

- MIL-STD-810F, 501.4I, 501.4II, 502.4I, 502.4II, 507.4, 500.4II, 514, 516I, 516Vi, 514.5, 512.4
- IP67/68

Physical

- Dimensions: 269mm(L) x 133(W) x 65(H), including connectors & hardware

Installation

- Set of four 4x4.5 mounting holes on bottom for mounting to any flat surface.

Cooling

- No moving parts. Passive cooling.

Operating temp

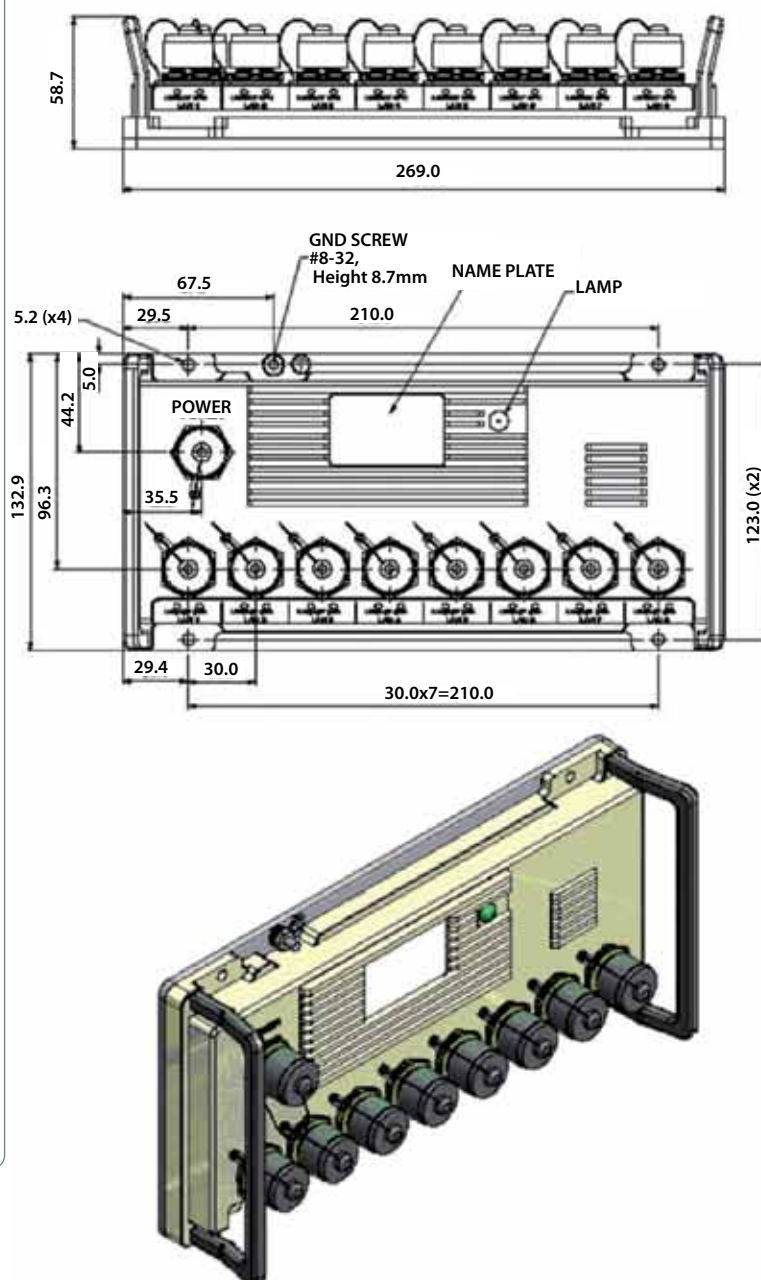
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RESMLAC 8US CAPS	• MIL-STD rugged • 8 x 10/100TX • Unmanaged switch • with caps • color dark green
	RESMLAC 8US CAPS SX	• MIL-STD rugged • 8 x 10/100TX • Unmanaged switch • with caps • color black
	RESMLAC 8US CBL 1M50	• Starter cable set for RESMLAC • MIL-D-38999 to RJ-45 connectors • 1m50 (5 feet) length

► For accessories, please consult us.

RJSMLAC-8UG-CAPS

Unmanaged military Ethernet switch, MIL-DTL-38999 connectors 8 Gigabit ports

Military ethernet switch for harsh environment - Fully MIL-STD compliant

Amphenol's RESMLAC-8UG-CAPS is a MIL-STD rugged, unmanaged-military-grade Ethernet switch, offering 8 triple speed Ethernet (10/100/1000) ports. Ethernet connectors are RJFTV, using RJField patented system that allows easy and quick assembly of any standard RJ45 cordset without any tool.

Developed for military and harsh environment applications, the RJSMLAC features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling.

Leveraging best-in-class switching technology, the RJSMLAC serves as a robust solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. Compact in size, the RJSMLAC is particularly useful for expanding port density in space-constrained airborne and ground vehicle environments.

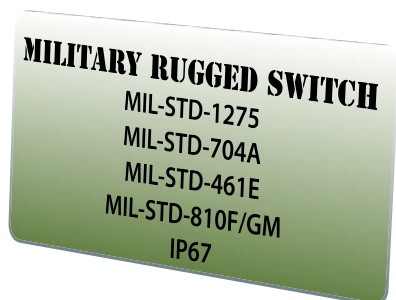
Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Mobile communications
- Combat vehicles
- Avionic & shipboard systems



Key features

- **Ethernet ports**
 - 8 x switched 10/100/1000 (Gigabit Ethernet) ports on RJFTV connectors
- **Networking**
 - Full wire-speed forwarding rate
 - Store-and-forward mechanism
 - Auto MDI-II, MDI-X
 - Auto-negotiation protocol
 - Address look-up
- **Connectors**
 - Power connector type: MIL-DTL-38999/24WA98PN
 - LAN connector type: RJFTV (coupling mechanism from MIL-DTL-38999)
 - LED indication per port (speed, link/activity)
- **Chassis**
 - Low profile rugged aluminium extrusion
 - Conductively cooled w/ custom internal heat-sinks
 - Ingress protection against sand, dust and moisture
 - Finish of epoxy-polyamide paint per MIL-C-83286, olive green, semi-gloss
- **Standards**
 - MIL-STD-1275, MIL-STD-704A, MIL-STD-461E, MIL-STD-810F GM, IP67/68
- **Voltage operation**
 - 24VDC (18VDC ~ 36VDC)



Product specifications

Performance

- 128K byte of SRAM for frame buffering
- 2.0 Gbps high-performance memory bandwidth
- 2 LED indication (speed, link/activity) per port
- Wire-speed reception and transmission
- Integrated address look-up engine
- Automatic address learning

Standards compliance

- IEEE 802.3 10BASE-T (Ethernet)
- IEEE 802.3u 100BASE-T (Fast Ethernet)
- IEEE 802.3ab 1000BASE-T (Gigabit Ethernet)
- IEEE 802.3x flow control

Power

- MIL-STD-1275B & MIL-STD 704A surge and spike protection
- Voltage input: 24Vdc nominal (18-32V)
- Power consumption: 2.8W typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental

- MIL-STD-810F, 501.4I, 501.4II, 502.4I, 502.4II, 507.4, 500.4II, 514, 516I, 516Vi, 514.5, 512.4
- IP67/68

Physical

- Dimensions: 269mm(L) x 133(W) x 65(H), including connectors & hardware
- Weight: 1.8kg

Installation

- Set of four 4x4.5 mounting holes on bottom for mounting to any flat surface.

Cooling

- No moving parts. Passive cooling.

Operating temp

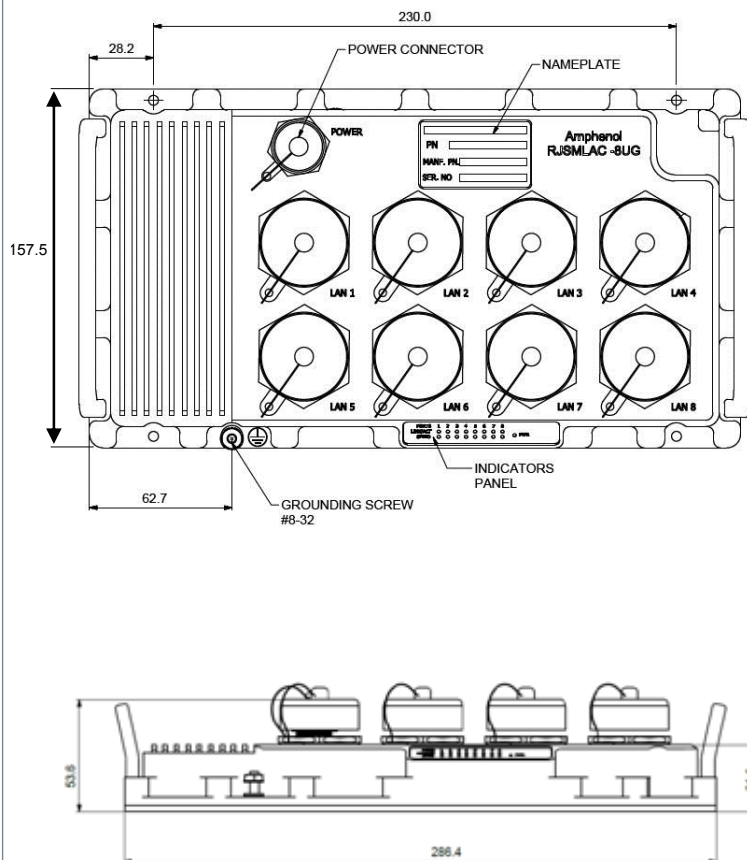
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RJSM-LAC 8UG CAPS	• MIL-STD rugged • 8 x gigabit ports • Unmanaged switch • with caps and handles • dark green

► For accessories, please consult us.

RJSMLAC-8MG-CAPS

Managed military Ethernet switch, RJFTV connectors - 8 Gigabit ports

Military ethernet switch for harsh environment - Fully MIL-STD compliant

Amphenol's RJSMLAC-8MG-CAPS is a MIL-STD Fully managed Military-grade network switch offering 8 triple speed (10/100/1000) ports. Ethernet connectors are RJFTV, using RJField patented system that allows easy and quick assembly of any standard RJ45 cordset without any tool.

Developed for military and harsh environment applications, the RJSMLAC-8MG-CAPS features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-DTL-38999 circular connectors.

Leveraging best-in-class switching technology, the RJSMLAC-8MG-CAPS serves as a robust solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. Compact in size, the RJSMLAC-8MG-CAPS is particularly useful for expanding port density in space-constrained airborne and ground vehicle environments.

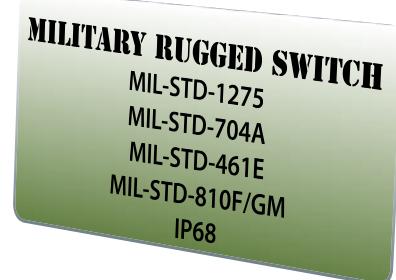
Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Mobile communications
- Combat vehicles
- Avionic & shipboard systems



Key features

- **Ethernet ports**
 - Managed 8 x switched 10/100/1000 ports on RJFTV connectors
- **Networking**
 - Spanning tree (802.1d), RSTP (802.1w) and multiple
 - Spanning tree (802.1S) for fast recovery rings
 - Security via Radius Authentication 802.1x, port security, port mirroring
 - Multicasting (IGMP Snooping), GARP, GMRP, and GVRP, Broadcasting and flooding control up to 8K groups.
 - 802.1q tagged based VLAN up to 4K VLAN groups.
 - QoS multi-layer classifier, 802.1p, ToS/DSCP traffic classification. WFQ, Strict Queuing.
 - Bridge support for Q-in-Q.
 - Link aggregation 802.3AD.
 - WEB, CLI, Telnet management.
- **Connectors**
 - Power connector type: MIL-DTL-38999/24WA98PA
 - LAN connector type: RJFTV (coupling mechanism from MIL-DTL-38999)
 - LED indication per port (Speed, Link/Activity)
- **Chassis**
 - Low profile rugged aluminium extrusion
 - Conductively cooled w/custom internal heat-sinks
 - Ingress protection against sand, dust and moisture
 - Anodize coating, MIL-A-8625, Type II, Class 2
- **Standards**
 - MIL-STD-1275, MIL-STD-704A, MIL-STD-461E,
 - MIL-STD-810F GM, IP67/68



Product specifications

Volage operation

- 24VDC (18VDC ~ 32VDC)

Performance

- 26.8 Mpps wire speed forwarding rate
- 20 Gbps maximum forwarding bandwidth
- 8K MAC address

Standards compliance

- IEEE 802.1x MAC based authentication
- IEEE 802.1Q Vlan tagging
- IEEE 802.1P QoS
- IEEE 802.1S Multiple STP
- IEEE 802.1W Rapid STP
- IEEE 802.3AD Link aggregation

Power

- Exceed MIL-STD-1275B surge and spike protection
- Voltage input: 24Vdc nominal (18-32V)
- Power consumption: 2.8W typical
- Chassis grounding

Electromagnetic

- MIL-STD-461E electromagnetic compatibility
- CE-102, CS-114, CS-115, CS-116, RE-102, RS-103

Environmental : shock/vibration/humidity

- MIL-STD-810F, 501.4I, 501.4II, 502.4I, 502.4II, 507.4, 500.4II, 514, 516I, 516VI, 514.5, 512.4
- IP67/68

Physical

- Dimensions: 287mm(L) x 147(W) x 50(H), including connectors & hardware
- Weight: 1.8 kg

Installation

- Set of four 4.5 mounting holes on bottom for mounting to any flat surface.
- Carrying handles

Cooling

- No moving parts. Passive cooling.

Operating temp

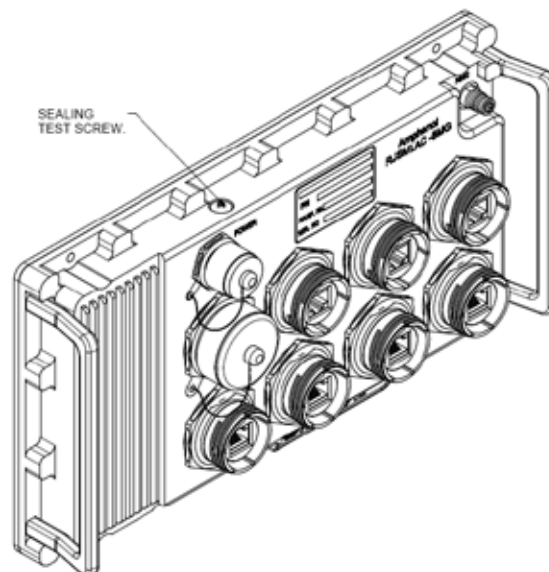
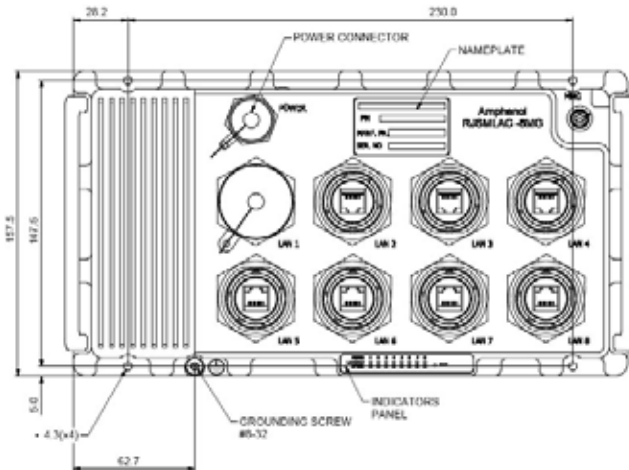
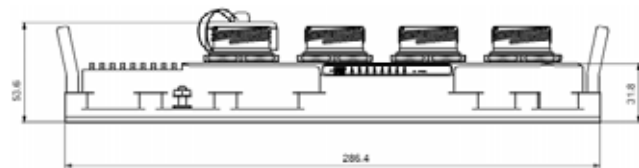
- -35°C to +75°C (-31°F to +167°F) / -35°C Cold start-up

Storage temp

- -45°C to +85°C (-49°F to +185°F)

Dimensional line drawing

All measurements are in millimeters



Part number	Description	
	RJSM-LAC 8MG CAPS	• MIL-STD rugged • 8 x 10/100/1000TX with RJ45 • Managed switch • With caps and handles • Dark green

► For accessories, please consult us.</

RESMLAC-8MG-CAPS

Managed military Ethernet switch, MIL-DTL-38999 connectors 8 Gigabit ports

Military ethernet switch for harsh environment - Fully MIL-STD-compliant

Amphenol's RESMLAC-8MG-CAPS is a MIL-STD fully managed Military-grade network switch offering 8 triple speed (10/100/1000) ports. Developed for military and harsh environment applications, the RESMLAC-8MG-CAPS features mechanical packaging enhancements designed for MIL-STD-810F airborne and ground environmental compliance and high reliability. The unit has been especially hardened to improve ingress, impact, and shock/vibration protection, as well as eliminate all moving parts through passive cooling, and interface through sealed MIL-DTL-38999 circular connectors.

Leveraging best-in-class switching technology from Amphenol, the RESMLAC-8MG-CAPS serves as a robust solution for providing local area network (LAN) connectivity to IP-enabled computing and net-centric devices. Compact in size, the RESMLAC-8MG-CAPS is particularly useful for expanding port density in space-constrained airborne and ground vehicle environments.

Military applications

- Data acquisition & transmission
- Battlefield communication C4ISR
- Rugged Networks
- Mobile communications
- Combat vehicles
- Avionic & shipboard systems



Key features

■ Ethernet ports

- Managed 8 x switched 10/100/1000 ports

■ Networking

- Spanning tree (802.1d), RSTP (802.1w) and multiple
- Spanning tree (802.1S) for fast recovery rings
- Security via Radius authentication 802.1x, port security, port mirroring
- Multicasting (IGMP Snooping), GARP, GMRP, and GVRP, Broadcasting and flooding control up to 8K groups.
- 802.1q tagged based VLAN up to 4K VLAN groups.
- QoS multi-layer classifier, 802.1p, ToS/DSCP traffic classification. WFQ, Strict Queuing.
- Bridge support for Q-in-Q.
- Link aggregation 802.3AD.
- WEB, CLI, Telnet management.

■ Connectors

- Power connector type: MIL-DTL-38999/24WA98PA
- LAN connector type: MIL-D-38999/24WB35SN
- LED indication per port (Speed, Link/Activity)

■ Chassis

- Low profile rugged aluminium extrusion
- Conductively cooled w/custom internal heat-sinks
- Ingress protection against sand, dust and moisture
- Anodize coating, MIL-A-8625, Type II, Class 2

■ Standards

- MIL-STD-1275, MIL-STD-704A, MIL-STD-461E,
- MIL-STD-810F GM, IP67/68

■ Voltage operation

- 24VDC (18VDC ~ 32VDC)

