



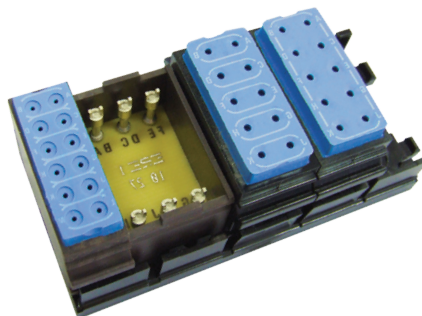
1777 Distribution Modules

1777 Standard, 1765 Component Carrier & 1119 Splices



Rail & Mass Transit
Industry

NFPA130
EN45545-2
NFF16-101 / 16-102



BROCHURE 01/18 - V6.0

Customer Service
2 rue Clément ADER, Zac de Wé
08110 CARIGNAN
FRANCE
Tel : +33 (0)3 24 22 32 66
Fax : +33 (0)3 24 22 38 72
customer-service@amphenol-airlb.fr
www.amphenol-airlb.fr



Amphenol Air LB
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1777 SERIES - PRESENTATION

Shunted Distribution Modules, individually Removable on rail, for a Sealed connection and a High Wiring Density.

UP TO 18 CTS SIZE 20 PER MODULE

They are easily mounted on rails thanks to a Locking Spring Mechanism, for a Quick and Easy installation and maintenance: no special tool or end stop required.

Rails are available in Metallic or Composite versions.

METALLIC RAIL = ROBUST

Amphenol Air LB design a Broad Range of Sealed 1777 modules, with a pitch of 14mm for wiring optimization on rail.

COMPOSITE RAIL = LIGHTWEIGHT

More information in our Railway / Industrial catalogue.

APPLICATION FIELDS

Rail & Mass Transit
Industry

MODULES QUALIFICATION AND STANDARDS

Derived from NF/UTE C93-462
Compliant with ROHS & REACH spec.
Compliant with NF F 61-030
Compliant with EN45545-2 spec.

PIN CRIMP CONTACTS

Derived from EN3155-016 & NF L 53-105 standards
Sizes available : 20, 16, 12 and 10
Cable cross section : from 0,25 to 6 mm²



MAIN TECHNICAL FEATURES

MATERIAL

Module : Shell in black thermoplastic
NFF16-101 / 16-102 Exigence 2, EN45545-2 (HL3 R22 R23), NFPA130
: Grommet in silicon elastomer
NFF16-101 / 16-102 Exigence 4, EN45545-2 (HL3 R22 R23)

Rails : Metallic rail in aluminum alloy + cadmium bichromate plating
: Composite rail in black thermoplastic
NFF16-101 / 16-102 Exigence 2, EN45545-2 (HL3 R22 R23), NFPA130

Contact : Copper alloy + nickel plating

ELECTRICAL

Withstanding voltage : 3250 V RMS 50 Hz
Insulation resistance : $\geq$ to 5000 M Ω

	# 20	# 16	# 12	# 10
Section (mm ²)	0,25 to 1	0,5 to 2	2,5	6
Max. contact resistance (m Ω)	1,5 (contact $\varnothing$ 2mm)	1,3 (contact $\varnothing$ 2,5mm)	0,8 (contact $\varnothing$ 4mm)	0,6 (contact $\varnothing$ 5mm)
Max. current rating (A)	7,5	15	23	46

ENVIRONMENTAL

Operating temperature : -55° to +175° C (component not included)
as per EN60068-2-14
Damp heat : 21j as per EN60068-2-78
Salt spray : 96 hours as per EN60068-2-11

SEALING

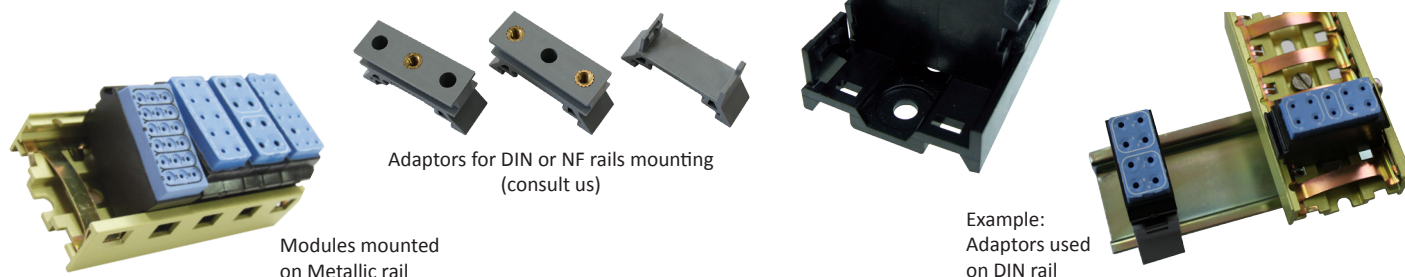
IP66 / IP68 and IP69K with appropriate cable diameter (IEC60529)

FLUIDS RESISTANCE

Gas oil, mineral oil, acid / base

MECHANICAL

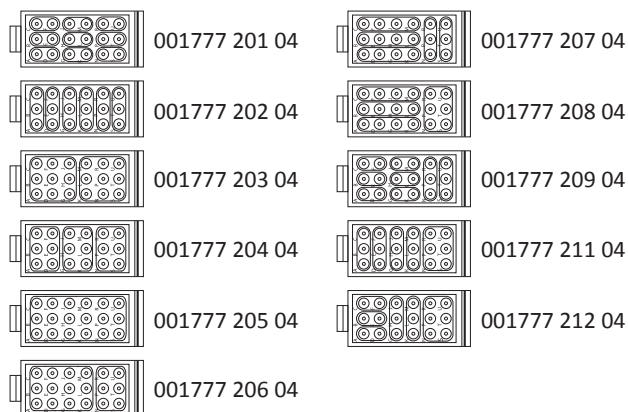
Vibrations : Mounting on bogie as per EN61-373 category 2 (functional and upgraded test)
Shocks : Mounting on bogie as per EN61-373 category 2
Endurance : 10 complete mounting/unmounting cycles of contacts into the cavity
30 mounting/unmounting cycles of module into metallic or composite rail



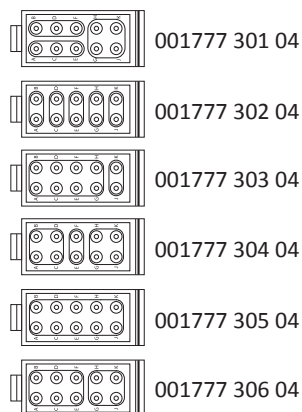
CONTACT LAYOUTS & RAILS

STANDARD MODULES

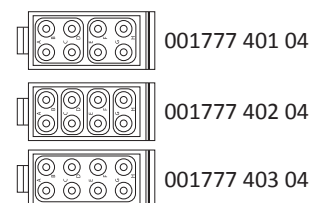
Layouts for 18 cts size 20



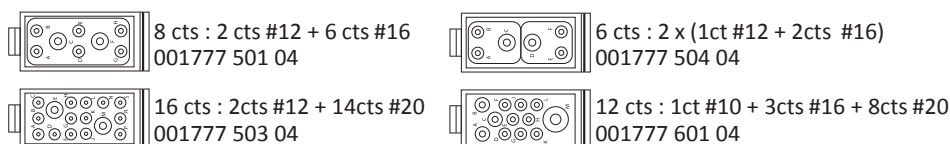
Layouts for 10 cts size 16



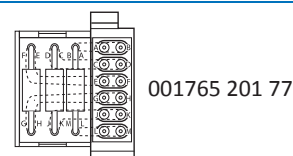
Layouts for 08 cts size 12



MIXED STANDARD MODULES



COMPONENT CARRIER MODULES



NON ROHS METALLIC RAIL

P/N: 001751 1** **

Nb of modules: 01 - 02 - 03 - ...

Anodization: 00

Cadmium bichromate plating: 07
(for Grounding modules on metallic rail)

ROHS METALLIC RAIL

P/N: 3177 01** 000 RAI

Nb of modules: 01 - 02 - 03 - ...

1 to 2 modules: nothing

3 to 10 modules and more...: RAI

COMPOSITE RAIL

P/N: 001751 6** 00

Nb of modules: 01 - 02 - 03 - ...

SIZE ON RAIL :

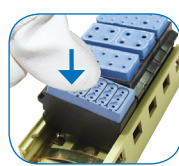
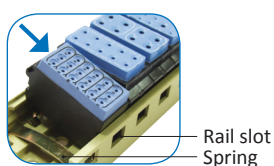
- Module: pitch of 14 mm
- Component Carrier Module: pitch of 28 mm

INSTALLATION

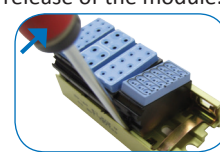
MODULES INSERTION / EXTRACTION



- Insertion**
- 1 Insert the protruding parts of the module facing the rail slot.
 - 2 Exert a light pressure on the module to click the locking spring mechanism.

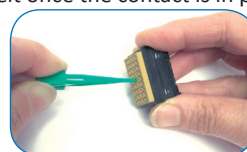
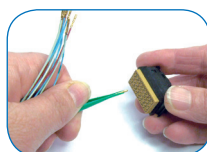
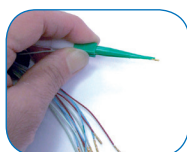
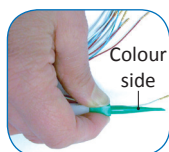


- Extraction**
- 1 Exert a light pressure with a screwdriver between the protruding part and the module until the release of the module.



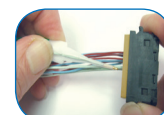
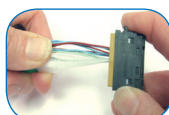
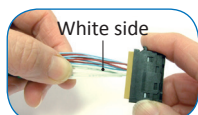
CONTACTS INSERTION / EXTRACTION

- Insertion**
- 1 Hold the tool and insert the cable into the longitudinal groove (colour side).
 - 2 Pull the cable to the rear of the tool until the end of the tool is resting on the contact flange.
 - 3 Take the module* by the shell, and present the contact in the chosen cavity.
 - 4 Gently push the contact in the cavity thanks to the tool to go through the sealing barriers first, then through the retention clips. An end stop will be felt once the contact is in place.
 - 5 Release the cable and pull off the tool. Exert a gentle pull on the cable to make sure the contact is properly locked in.



* Modules shown on pictures are similar to 1777 series and for illustration only.

- Extraction**
- 1 Place the cable to be extracted in the longitudinal groove (white side).
 - 2 Slide gently the tool along the cable in the cavity, until a mechanical stop is reached. At this moment, the contact retention clips are freed.
 - 3 Press the cable against the tool and pull both the cable and the tool out of the cavity.



1119 SPLICES - PRESENTATION

Circular Electrical Junction Module consists of female copper cable contacts inside a thermosetting resin and silicon elastomer sleeve.

AVAILABLE IN 1 TO 3 CIRCUITS

They are fitted with male crimp contacts, derived from EN 3155-016 and NF L53-105 standards.

SIZES 20 & 16

Suited for sealed connections.



Sealed splices 1119 series

MAIN TECHNICAL FEATURES

MATERIAL

- Splice : Silicon elastomer
NFF16-101 / 102 Exigence 4 (I2F1),
EN45545 (HL3 R22)
- Contact : Copper alloy with Gold on nickel plating

MECHANICAL

Endurance : 10 complete mounting/unmounting cycles of contacts into the cavity

Contact retention :

	# 20	# 16
Section (mm ²)	0,25 to 1	0,5 to 2
Contact retention (daN)	9	11,4

ENVIRONMENTAL

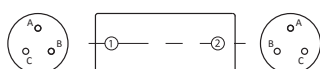
Operating temperature : -55° to +175° C
(component not included)

ELECTRICAL

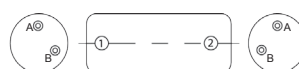
Withstanding voltage : 1500 V RMS 50 Hz
Insulation resistance : ≥ to 5000 MΩ

	# 20	# 16
Section (mm ²)	0,25 to 1	0,5 to 2
Max. contact resistance (mΩ)	1,5 (contact Ø 2mm)	1,3 (contact Ø 2,5mm)
Max. current rating (A)	7,5	15

MAIN CONTACT LAYOUTS



Contacts size 20 / 20
001119 203 04



Contacts size 16 / 16
001119 302 04

MODULES & SPLICES: CONTACTS & TOOLS

Pin contact		Cable			Crimping		Insertion - Extraction	
Size	P/N	Section (mm ²)	AWG	Ø/seath (mm / inch)	Tool	Locator	Plastic tool	Standard
20	001104 200 04	0,25 - 1,00	18 - 20 - 22 - 24	1,20 - 2,00 (.047 - .079)	M22520/1-01 M22520/2-01 M22520/7-01	M22520/1-02 M22520/2-02 M22520/7-02	001112 200 25	MIL I 81969/14-11 NAS 1664-20 NF L 54131/20
16	001104 300 04	0,60 - 1,20	16 - 18 - 20	1,34 - 2,62 (.053 - .103)	M22520/1-01 M22520/7-01	M22520/1-02 M22520/7-03	001112 300 25	MIL I 81969/14-03 NAS 1664-16 NF L 54131/16
	001104 301 04	1,00 - 2,00	14 - 16 - 18	2,62 (.103)	M22520/1-01	M22520/1-02	001112 300 25	MIL I 81969/14-03
12	001104 400 04	2,00 - 3,00	12 - 14	2,20 - 4,01 (.087 - .158)	M22520/1-01	M22520/1-02	001112 400 25	MIL I 81969/14-04 NAS 1664-12 NF L 54131/12
10	001104 620 04	5,15 - 8,98	8 - 10	4,00 - 5,50 (.157 - .217)	M 300 BT	TP 986	001112 600 25	MIL I 81969/14-05