

*Schroff*

# BACKPLANES

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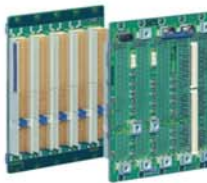
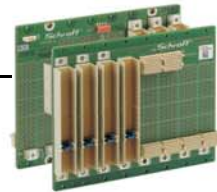
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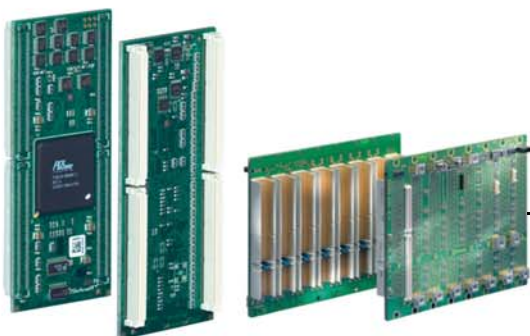
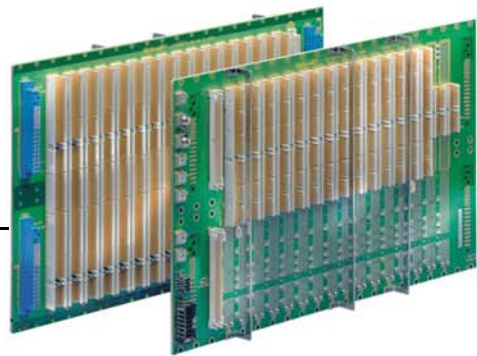
## CompactPCI Serial

## CompactPCI PlusIO



## CompactPCI backplanes and bridges

## CompactPCI, PSB and H.110 backplanes



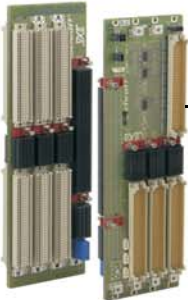
## PXI backplanes

## VPX backplanes



Backplanes

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VXS backplanes

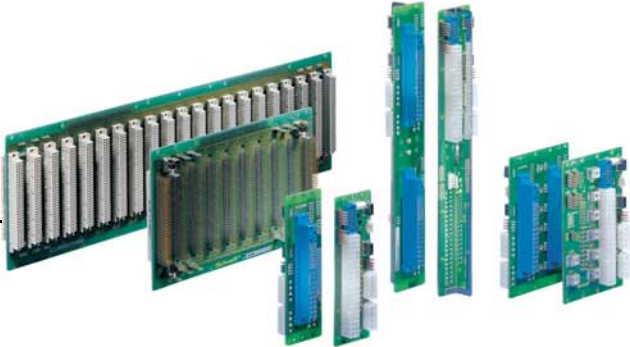
VME64x backplanes



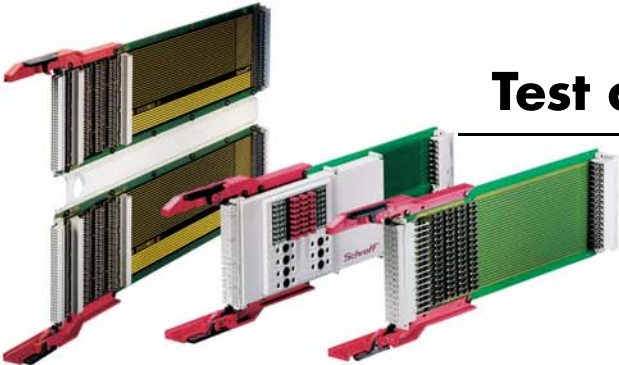
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Power and universal backplanes



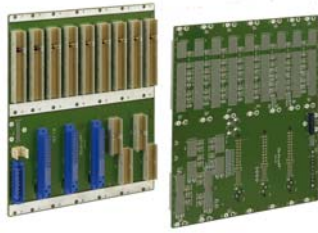
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## Backplanes

### Our competence in overview



#### Comprehensive standard backplane programme

**AdvancedTCA - MicroTCA - CompactPCI - VME - Schroff** offers you an extensive standard backplane programme that is already ideally matched to your requirements. Should you still not find your backplane in our range, we can develop or modify to create your tailor-made backplane, quickly and on attractive terms. All our developing and manufacturing is done in-house and competent personnel are available at any time to deal with technical questions, quotes and project support.

#### Custom backplane



#### Project management



#### Development



#### Layout



#### Test laboratory

#### Custom development to customer requirements

From minor modifications to our standard backplanes through to specific form factors and connection topologies, Schroff has the right solution for you

#### One contact partner as customer interface

Competent personnel are available at any time for technical questions, quotes, project support and after-sales care. If you wish, we are also happy to help you generate the specification for your custom backplane. Contact at an early stage between our technical staff and our customers helps us to develop cost-optimised projects that meet all our customers' requirements.

#### Many years of experience

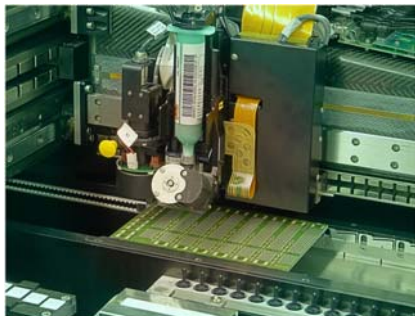
50 years of experience, continual fundamental research and innovation in the backplane sector. Active participation in standards committees and in the specification of new system architectures and high-speed transmission technologies.

#### Modern design tools

Modern simulation tools and measurement equipment plus in-house developed high-performance test adaptors. Development of new technologies and topologies using high-speed measurements performed in-house.

## Backplanes

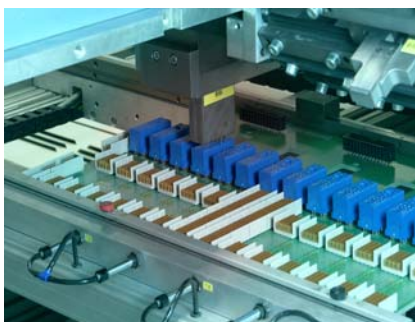
### Our competence in overview



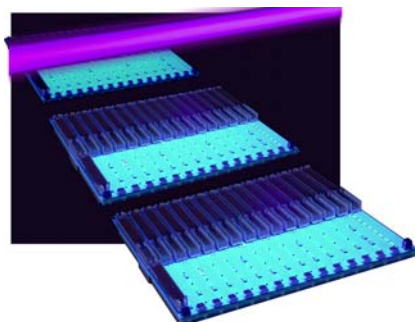
Solder paste printing



Automatic optical inspection (AOI)



Connector mounting



Conformal coating



Electrical final test

### Modern machine facilities in Straubenhardt

**Solder paste printing** is one of the quality-defining process steps in backplane manufacture. This solder-paste printer, based on innovative inkjet technology, allows fast, flexible and highly dependable solder paste printing. Since the process dispenses with the 'stencils' required by other methods, the printing program can be changed in a very short time. This means that small batches can also be printed cost-effectively.

Our modern **SMD placement machines** support a wide spectrum of components with a high placement performance. Small and large production runs can be implemented flexibly and time-efficiently.

**Vapour-phase soldering**, also known as vapour-phase reflow, is currently the most universal and most reliable soldering process.

It is ideally suited to all types of SMD component and carrier material. The homogenous temperature distribution of the carrier medium allows the widest variety of sub-assemblies, from Flexprints to multilayer boards, to be soldered reliably without danger of overheating.

There is also the option of processing conventional components with our **wave-soldering system**.

**Automatic optical inspection (AOI)** is an optical test procedure for sub-assemblies equipped with components. Highly-developed image processing systems reliably detect faulty soldered joints and wrongly placed or missing components.

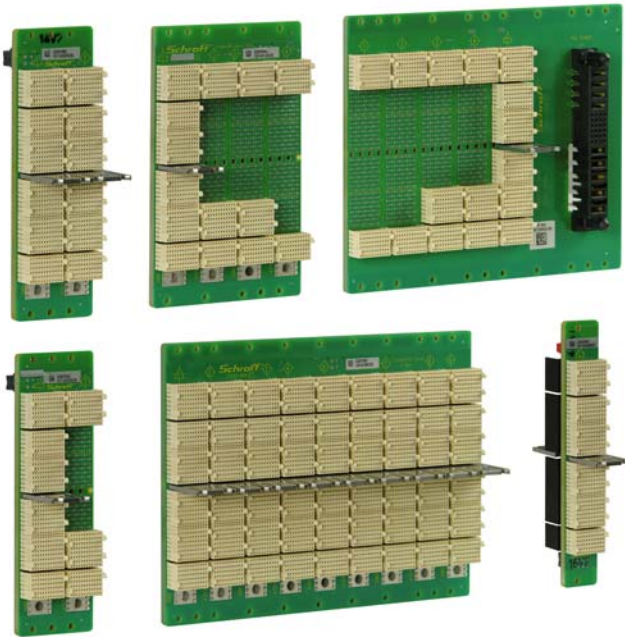
Connectors are pressed into the backplane fully automatically. The **press-in technique** allows quick and economic mounting of the connector without subjecting the PCB to thermal stress. The press-in action creates a gas-tight, dependably electrically conductive and mechanically strong connection. Intelligent force/displacement measuring during the press-in action ensures consistent high quality.

Backplanes that are subject to particular climatic stresses can be coated with a **protective lacquer (conformal coating)**. This coating protects the backplane from e.g. corrosion and mould. The fluorescent characteristic of the protective coating enables the coating to be checked for completeness or damage under UV light.

No backplane leaves our production facility without **100% testing**. All backplanes are subjected to extensive electrical testing before despatch. An automatic process checks the entire backplane for continuity and short circuits. This testing also covers passive and simple active components such as resistors, capacitors and diodes and the description and testing of I2C EEPROMS or bus terminations. For this Schroff has a comprehensive automated and semi-automated testing facility.

## Backplanes – CompactPCI Serial

### CompactPCI Serial backplanes



12415020

- Conforms to PICMG CompactPCI Serial (CPCI-S.0 R2.0) specification
- 1 system slot and 0 ... 8 peripheral slots
- Supports PCIe (Gen3), USB 2.0 and USB 3.0, S-ATA (II & Rev. 3.0) and Ethernet (10GBase-T)
- PCIe: Up to two 8 x lanes and up to six 4 x lanes
- Powerbugs for +12 V payload voltage and Minit plug for +5 V standby voltage
- Utility connector on rear of backplane
- Mechanical centering and keying/coding strip in stainless steel on every fully equipped front and rear slot
- PICMG 2.9 IPMB plug can be fitted on request

### Delivery includes

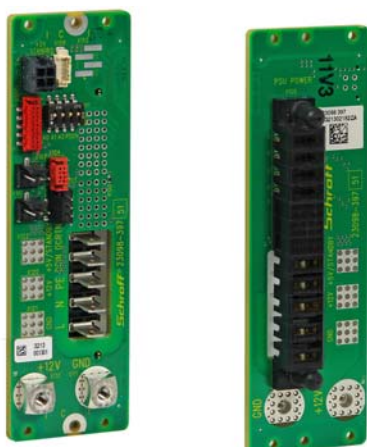
Item	Qty	Description
1	1	Backplane
2	1	Screw kit, M4 x 6, with lock washer; for connecting power to powerbugs

### Order Information

Height U	Number of slots	System slot	Topology GbE	I/O at rear	Width mm	Description	Part no.
3	1	-	-	Yes	19.3	J1 plug for power, J2...J5, RP2...RP5 for rear I/O	23007-661
3	1	-	-	No	19.3	J1 plug for power	23007-621
3	1	-	Rear I/O on RP6	Yes	19.3	J1 plug for power, J2...J6, RP2...RP6 for rear I/O	23007-681
3	1	-	Rear I/O on RP6	No	19.3	J1 plug for power, J6, RP6 for rear I/O	23007-641
3	2	Left	Full mesh	Yes	39.6	For Ethernet single star and full-mesh applications	23007-682
3	2	Left	Full mesh	No	39.6	For Ethernet single star and full-mesh applications	23007-642
3	3	Left	Full mesh	No	60.0	For Ethernet single star and full-mesh applications	23007-643
3	3	Left	Full mesh	Yes	60.0	For Ethernet single star and full-mesh applications	23007-683
3	3	Right	Full mesh	Yes	60.0	For Ethernet single star and full-mesh applications	23007-693
3	3	Right	Full mesh	No	60.0	For Ethernet single star and full-mesh applications	23007-653
3	4	Left	Full mesh	Yes	80.3	For Ethernet single star and full-mesh applications	23007-684
3	4	Left	Full mesh	No	80.3	For Ethernet single star and full-mesh applications	23007-644
3	4	Right	Full mesh	No	80.3	For Ethernet single star and full-mesh applications	23007-654
3	4	Right	Full mesh	Yes	80.3	For Ethernet single star and full-mesh applications	23007-694
3	5	Left	Full mesh	Yes	100.6	For Ethernet single star and full-mesh applications	23007-685
3	5	Left	Full mesh	No	100.6	For Ethernet single star and full-mesh applications	23007-645
3	5	Right	Full mesh	Yes	100.6	For Ethernet single star and full-mesh applications	23007-695
3	5	Right	Full mesh	No	100.6	For Ethernet single star and full-mesh applications	23007-655
3	5	Right	Full mesh	Yes	159.9	Additional slot for one CompactPCI Serial PSU (3 U, 8 HP)	23007-615
3	5	Right	Full mesh	No	159.9	Additional slot for one CompactPCI Serial PSU (3 U, 8 HP)	23007-605
3	6	Right	Single star	No	120.9	For Ethernet single-star applications	23007-636
3	6	Right	Single star	Yes	120.9	For Ethernet single-star applications	23007-676
3	7	Left	Single star	No	141.2	For Ethernet single-star applications	23007-627
3	7	Left	Single star	Yes	141.2	For Ethernet single-star applications	23007-667
3	7	Right	Single star	No	141.2	For Ethernet single-star applications	23007-637
3	7	Right	Single star	Yes	141.2	For Ethernet single-star applications	23007-677
3	8	Left	Single star	No	161.6	For Ethernet single-star applications	23007-628
3	8	Left	Single star	Yes	161.6	For Ethernet single-star applications	23007-668
3	9	Left	Single star	Yes	181.9	For Ethernet single-star applications	23007-669
3	9	Left	Single star	No	181.9	For Ethernet single-star applications	23007-629
3	9	Right	Single star	Yes	181.9	For Ethernet single-star applications	23007-679
3	9	Right	Single star	No	181.9	For Ethernet single-star applications	23007-639
3	9	Left	Full mesh	Yes	181.9	For Ethernet single-star applications	23007-689
3	9	Left	Full mesh	No	191.9	For Ethernet single-star applications	23007-649

## Backplanes – CompactPCI Serial

### CompactPCI Serial power backplane



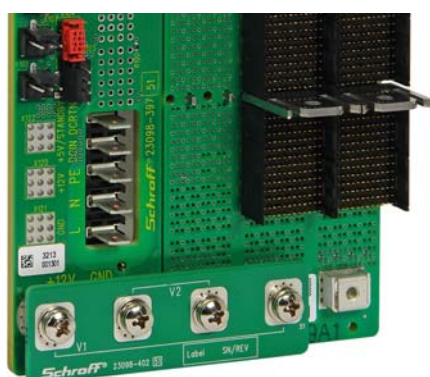
- Power backplane for pluggable PSUs with FCI Power Blade plug
- 3 U, 8 HP, 1 PSU connector
- Separate inputs for AC and DC with Fastons
- Connector for 12 V, 5 V standby, utility signals, current sharing, power button, serial console to a UPS and digital I/O at the rear
- Optionally, the PICMG 2.9 SMBus plug and additional powerbugs for 12 V and 5 V standby can be fitted
- Geographical address can be set by means of a DIP switch

### Delivery includes

Item	Qty	Description
1	1	CompactPCI Serial power backplane

### Order Information

Height	Number of slots	Width	Part no.
U		mm	
3	1	38.9	23098-397



Application: Power backplane (left), CompactPCI Serial backplane (right) and connection via power adapter board (below)

### Accessories for CompactPCI backplanes

- Cable sets for connecting power and status signals of CompactPCI Serial backplanes and power backplanes
- Power adapter boards for simple connection of 12 V main supply voltage between CompactPCI Serial backplanes and power backplanes

### Order Information

Accessories		
Utility cable, single conductors, 600 mm, 1 x 10-pin Micro-Match	1 piece	23204-852
Utility flat ribbon cable, 650 mm, 4 x 10-pin Micro-Match	1 piece	23204-875
Standby cable, single conductors, 600 mm, 1 x 4-pin Microfit to 2 x ring cable eye	1 piece	23204-853
Standby cable, single conductors, 400 mm, 3 x 4-pin Microfit	1 piece	23204-866
Current-sharing flat ribbon cable, 150 mm, 2 x 4-pin Micro-Match	1 piece	23204-867
Power connection cable, for 1-slot backplane, single conductors, 600 mm, 1 x 6-pin Microfit to 2 x ring cable eye and 1 x 4-pin Microfit	1 piece	23204-869
Power connection cable, backplane to backplane, single conductors, 300 mm, 2 x ring cable eye to 2 x ring cable eye	1 piece	23204-879
AC input cable, single conductors, 500 mm, 3 x blade receptacles, open end	1 piece	23204-880
DC input cable, single conductors, 500 mm, 3 x blade receptacles, open end	1 piece	23204-881
CompactPCI Serial power backplane, 3 U, 8 HP, 1 slot	1 piece	23098-397
Power adapter board, 3 x V <sub>1</sub> , 3 x V <sub>2</sub> , 121212	1 piece	23098-399
Power adapter board, 2 x V <sub>1</sub> , 2 x V <sub>2</sub> , 1212	1 piece	23098-400
Power adapter board, 3 x V <sub>1</sub> , 3 x V <sub>2</sub> , 122121	1 piece	23098-401
Power adapter board, 2 x V <sub>1</sub> , 2 x V <sub>2</sub> , 1221	1 piece	23098-402

## Backplanes – CompactPCI

### CompactPCI PlusIO

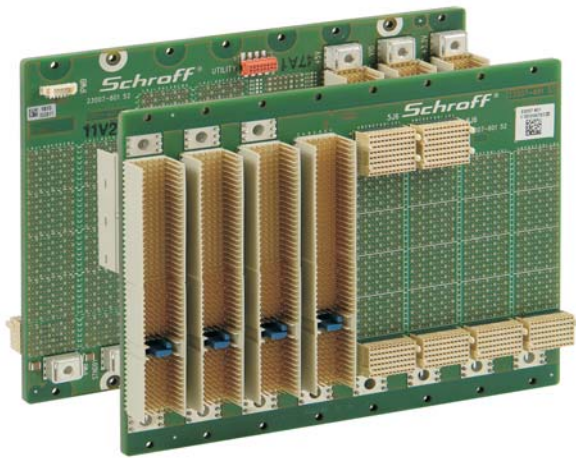
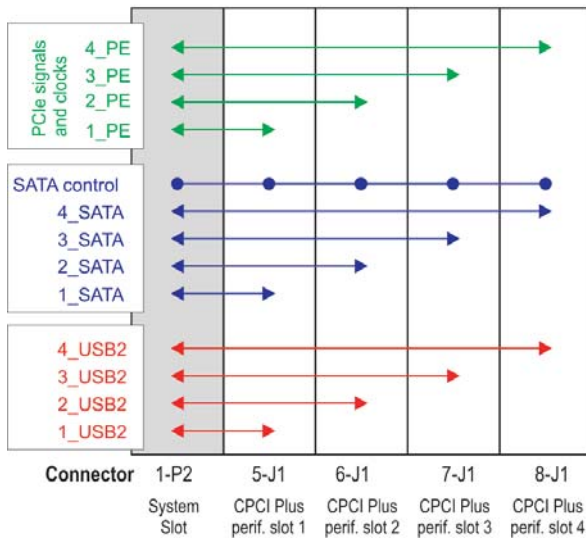
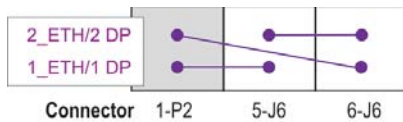


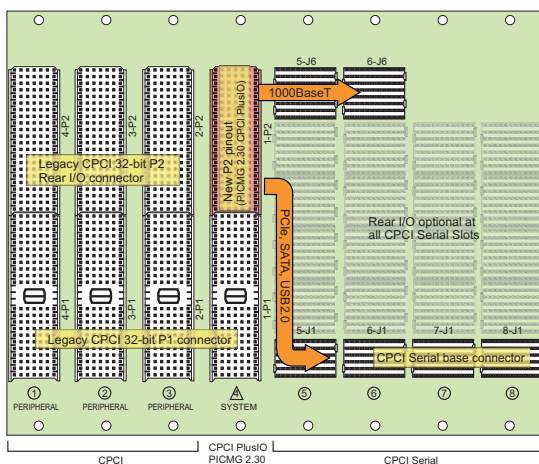
Photo shows 23007-601

12411009



Topology shows 23007-601

12409053



Front view

12409051

- In accordance with:
  - PICMG 2.0 R3.0 CompactPCI Core Specification
  - PICMG 2.1 R2.0 Hot-Swap Specification
  - PICMG 2.9 R1.0 System Management Bus Specification
  - PICMG 2.10 R1.0 Keying Specification
  - PICMG 2.30 R1.0 CompactPCI PlusIO specification
  - PICMG CompactPCI Serial (CPCI-S.0 R1.0) specification
- System slot in accordance with PICMG 2.30, 32-bit CPCI bus on P1, PCIe, S-ATA, USB & Ethernet on P2
- CompactPCI peripheral slots, 32 bit with rear I/O on P2
- CompactPCI Serial peripheral slots with PCIe x1, S-ATA and USB
- Full-mesh Ethernet on system slot and 2 CompactPCI Serial slots, supports 1000Base-T and 10GBase-T
- Rear I/O on the CompactPCI Serial slots available on request
- V(I/O) can be set to 3.3 V or 5 V (preset to 5 V)

#### Delivery comprises

Item	Qty	Description
1	1	Backplane
2	1	Set of screws, M4x6, with lock washer; to attach the power connection cable to the power bugs

#### Order Information

Number of slots	Width mm	Height U	Part no.
3 CPCI + 2 CPCI Serial	102.2	3	23007-602
4 CPCI + 4 CPCI Serial	161.3	3	23007-601

#### Accessories

<b>SM bus/IPMB cable</b> 4 individual wires with SMB plug to open end, length 750 mm, 1 piece	23204-113
<b>Kit to convert V I/O to 3.3 V</b> 8 coding tabs, yellow, coding key, PU 1 kit	21101-658
<b>Utility cable MicroMatch</b> with single conductors, length 600 mm, 1 piece	23204-812
<b>Utility cable MicroMatch</b> with flat ribbon cable, length 600 mm, 1 piece	23204-811
<b>Screws, washers for backplane mounting</b>	Page 10.30

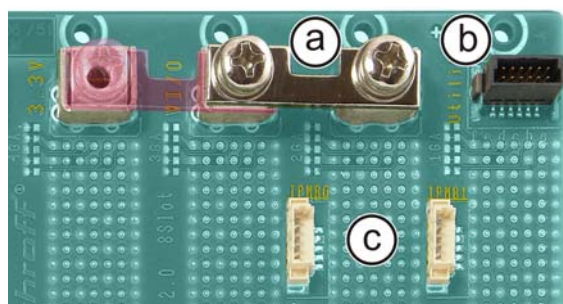
## Backplanes – CompactPCI

### CompactPCI backplane with system slot right



Photo shows 23006-816

12408001



a: V(I/O) bridge; b: Utility connector; c: IPMB connector

12408002



ServicePLUS see page 10.31

- In accordance with
  - PICMG 2.0 R3.0 CompactPCI Core specification
  - PICMG 2.1 R2.0 Hot Swap specification
  - PICMG 2.9 R1.0 System Management Bus specification
  - PICMG 2.10 R1.0 Keying specification
- Versions: 3 U 32-bit and 64-bit, 6 U 64-bit, with system slot right
- V(I/O) adjustable to +3.3 V or +5 V (see photo)
- Backplanes up to 5 slot are 66 MHz capable, 6 to 8 slot backplanes are set for 33 MHz operation
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Digital GND can be connected to/isolated from chassis GND by means of screws
- Infeed of supply voltages via powerbugs (ring tag M4), FASTONs
- Utility plug for status signals (SMCQ)
- Intelligent platform management bus (IPMB) connector to PICMG 2.9

#### Delivery comprises

Item	Qty	Description
1	1	CompactPCI backplane with coding tab and V(I/O) bridge, fitted
2	1	Set of 6 M4 bolts, with lock washer; for power connection

#### Note

- 4 to 7 slot backplanes can be used as primary backplane with bridge
- Types marked with an asterisk \* are available on request
- CompactPCI backplanes and secondary bridges see from page 10.10

### Order Information

Number of slots	Width mm	3 U, 32-bit, CompactPCI backplane		3 U, 64-bit, CompactPCI backplane		6 U, 64-bit, CompactPCI backplane	
		3.3 V V(I/O) Part no.	5 V V(I/O) Part no.	3.3 V V(I/O) Part no.	5 V V(I/O) Part no.	3.3 V V(I/O) Part no.	5 V V(I/O) Part no.
1	19.3	23006-331	<b>23006-811</b>	23006-331	<b>23006-811</b>	–*	–*
2	39.6	23006-332	<b>23006-812</b>	–*	–*	23006-372	<b>23006-862</b>
3	60.0	23006-303	<b>23006-813</b>	23006-353	<b>23006-833</b>	23006-373	<b>23006-863</b>
4	80.3	23006-334	<b>23006-814</b>	23006-354	<b>23006-834</b>	23006-374	<b>23006-864</b>
5	100.6	23006-301	<b>23006-815</b>	23006-355	<b>23006-835</b>	23006-375	<b>23006-865</b>
6	121.0	23006-336	<b>23006-816</b>	–*	–*	23006-376	<b>23006-866</b>
7	141.2	23006-337	<b>23006-817</b>	–*	–*	23006-377	<b>23006-867</b>
8	161.6	23006-300	<b>23006-818</b>	23006-358	<b>23006-838</b>	23006-378	<b>23006-868</b>

#### Accessories

Kit to convert V(I/O) to 3.3 V 8 coding tabs, yellow, coding key, PU 1 kit	21101-658
Utility cable SMCQ with flat ribbon cable, length 350 mm, 2 × 12-pin female connector, 1 piece	23204-115
Utility cable SMCQ with flat ribbon cable, length 600 mm, 2 × 12-pin female connector, 1 piece	23204-116
Termination adaptor, 64-bit bus for 8 slot CompactPCI backplane, 1 piece	23006-931
SM bus/IPMB cable 4 individual wires with SMB plug to open end, length 750 mm, 1 piece	23204-113
Power Piggyback usable with backplanes with 3 slots and up, 1 piece	23098-100
Power backplane with P47 connector	Page 10.20
Screws, washers for backplane mounting	Page 10.30

## Backplanes – CompactPCI

### CompactPCI backplane with system slot left

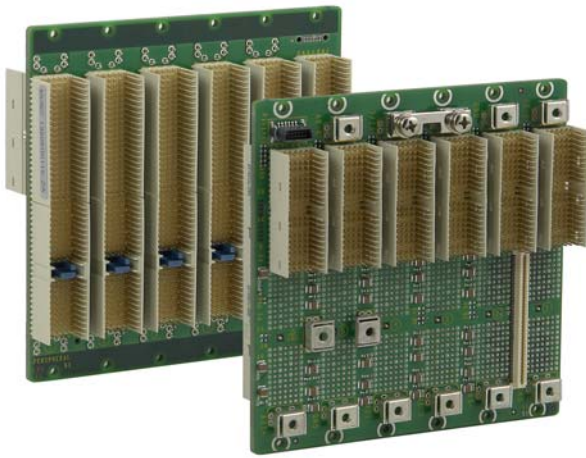
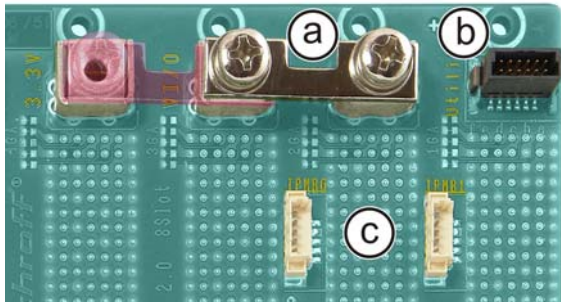


Photo shows 23006-816



a: V(I/O) bridge; b: Utility connector; c: IPMB connector



ServicePLUS see page 10.31

- In accordance with
  - PICMG 2.0 R3.0 CompactPCI Core specification
  - PICMG 2.1 R2.0 Hot Swap specification
  - PICMG 2.9 R1.0 System Management Bus specification
  - PICMG 2.10 R1.0 Keying specification
- Versions: 3 U 32-bit and 64-bit, 6 HE 64-bit, with system slot left
- V(I/O) adjustable to +3.3 V or +5 V (see photo)
- Backplanes up to 5 slots are 66 MHz capable; 6 to 8 slot backplanes are set for 33 MHz operation
- Outer layers act as GND surfaces
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Multiple backplanes can be placed together without loss of slots
- Digital GND can be connected to/isolated from chassis-GND by means of screws
- Infeed of supply voltages via powerbugs (ring tag M4), FASTONs
- Utility plug for status signals (SMCQ)
- Intelligent platform management bus (IPMB) connector to PICMG 2.9

12408001

12408002

#### Delivery comprises

Item	Qty	Description
1	1	CompactPCI backplane
2	1	Set of M4x6 bolts, with lock washer; for power connection

#### Note

- 4 to 7 slot backplanes can be used as primary backplane with bridge (bridge for system slot left available on request)
- Types marked with an asterisk \* are available on request

### Order Information

Number of slots	Width mm	3 U, 32-bit, CompactPCI backplane		3 U, 64-bit, CompactPCI backplane		6 U, 64-bit, CompactPCI backplane	
		3.3 V V(I/O) Part no.	5 V V(I/O) Part no.	3.3 V V(I/O) Part no.	5 V V(I/O) Part no.	3.3 V V(I/O) Part no.	5 V V(I/O) Part no.
1	19.3	23006-331	<b>23006-811</b>	23006-331	<b>23006-811</b>	–*	–*
2	39.6	–*	–*	23006-422	<b>23006-732</b>	–*	–*
3	39.6	–*	–*	23006-423	<b>23006-733</b>	23006-443	23006-763
4	80.3	–*	–*	23006-424	<b>23006-734</b>	23006-444	<b>23006-764</b>
5	100.6	23006-405	23006-715	–*	–*	23006-445	<b>23006-765</b>
6	121.0	23006-406	23006-716	23006-426	<b>23006-736</b>	–*	–*
8	161.6	23006-408	23006-718	23006-428	<b>23006-738</b>	23006-448	<b>23006-768</b>

#### Accessories

Kit to convert V I/O to 3.3 V 8 coding tabs, yellow, coding key, PU 1 kit	21101-658
Utility cable SMCQ with flat ribbon cable, length 350 mm, 2 × 12-pin female connector, 1 piece	23204-115
Utility cable SMCQ with flat ribbon cable, length 600 mm, 2 × 12-pin female connector, 1 piece	23204-116
Termination adaptor, 64-bit bus for 8 slot CompactPCI backplane, 1 piece	23006-931
SM bus/IPMB cable 4 individual wires with SMB plug to open end, length 750 mm, 1 piece	23204-113
Screws, washers for backplane mounting	Page 10.30

## Backplanes – CompactPCI

### CompactPCI, packaging switching and H.110 backplane

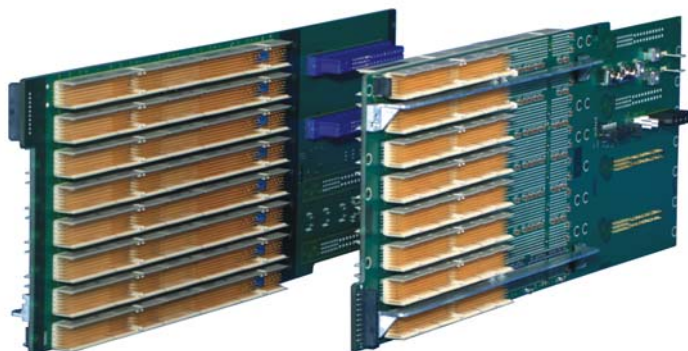


Photo shows 23006-797, 9 U

12405002

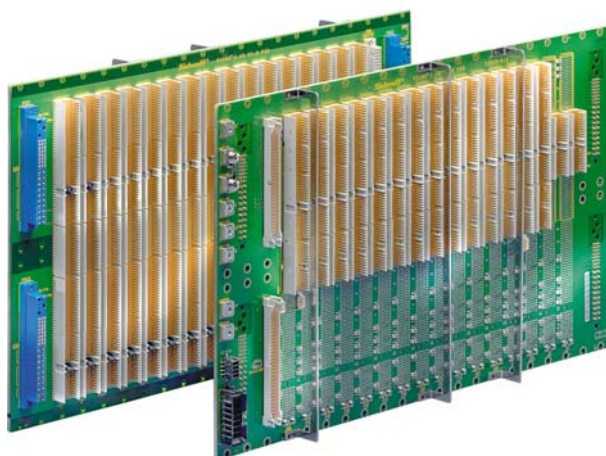


Photo shows 23006-621

12402005



ServicePLUS see page 10.31

### Order Information

Number of slots	CompactPCI backplanes	Power connector	Data connection	Part no.
2	System slot left, for horizontal mounting	ATX (male) connector	64-bit CompactPCI bus	<b>23006-792</b>
2	System slot left, for horizontal mounting	Mini-fit 10-pin	64-bit CompactPCI bus	23006-793
2	System slot left, for horizontal mounting	1 x P47	64-bit CompactPCI bus	<b>23006-794</b>
4	System slot left, for horizontal mounting	Mini-fit 24-pin	64-bit CompactPCI bus	23006-799
4	System slot left, for horizontal mounting	2 x P47	64-bit CompactPCI bus	23006-795
4	System slot left, for horizontal mounting	2 x P47	64-bit CompactPCI bus, H.110 bus	<b>23006-615</b>
6	System slot left, for horizontal mounting	Mini-fit 24 pin	64-bit CompactPCI bus	23006-798
6	System slot left, for horizontal mounting	2 x P47 (optional third connector)	64-bit CompactPCI bus	<b>23006-796</b>
8	System slot left, for horizontal mounting	2 x P47 (optional third and fourth connectors)	64-bit CompactPCI bus	<b>23006-797</b>
8	System slot left, for horizontal mounting	2 x P47 (optional third and fourth connectors)	64-bit CompactPCI bus, H.110 bus, PSB	<b>23006-611</b>
8	System slot right, for 6 U CompactPCI system, power input without loss of slot space	Powerbugs	64-bit CompactPCI bus, H.110 bus	<b>23006-601</b>
16	System slot right, for 6 U CompactPCI system, incl. 1 slot for Schroff CMM, 2 independent CPCI segments, 7 slots each	4 x P47, one above the other	2 x 64-bit CompactPCI bus, 7 slot each, PSB	<b>23006-621</b>

- In accordance with
  - PICMG 2.0 R3.0 CompactPCI Core specification
  - PICMG 2.1 R2.0 Hot Swap specification
  - PICMG 2.9 R1.0 System Management Bus specification
  - PICMG 2.10 R1.0 Keying specification
  - PICMG 2.5 Computer Telephony specification (H.110)
  - PICMG 2.16 CompactPCI Packet Switching Backplanes
  - PICMG 2.11 CompactPCI Power Interface specification
- Various versions
  - CompactPCI, Packet Switching, H.110
  - Backplanes for horizontal installation and backplanes for horizontal installation including slots for plug-in power supply (P47)
- V(I/O) can be set to +3.3 V or +5 V
- Backplanes up to 5 slots are 66 MHz capable, 6 to 8 slot backplanes are set for 33 MHz operation
- Outer layers act as GND surfaces
- Outstanding high frequency noise suppression and very high MTBF values due to ceramic capacitors
- Digital GND can be connected to/isolated from chassis GND by means of screws
- Utility plug for status signals
- Intelligent platform management bus (IPMB) connector to PICMG 2.9

### Delivery comprises

Item	Qty	Description
1	1	CompactPCI backplane
2	1	Set of M4x6 bolts, with lock washer; for power connection

### Note

- Types marked with an asterisk \* are available on request

## Backplanes – CompactPCI

### CompactPCI bridges



Photo shows 32-bit and 64-bit bridges

12402002



ServicePLUS see page 8.112



- In accordance with
  - PICMG 2.6 CompactPCI Bridging Specification
  - PCI 2.1 PCI Local Bus Specification, Rev. 2.1
- Bridge mounted on rear of backplane, hence no loss of slots
- Very compact and low bridge shape, no interference with rear transition boards
- Schroff CompactPCI backplanes with system slot right are used as primary backplane
- The 32-bit bridge is 33 MHz capable and the 64-bit bridge is 33/66 MHz capable
- Bridges are designed for primary backplanes with system slot right; bridges for system slot left available on request
- A summary of possible backplane/bridge combinations can be found on the Schroff website

### Delivery comprises

Item	Qty	Description
1	1	Bridge

### Order Information

Description	Part no.
CompactPCI bridge, 32 bit, 33 MHz, for system slot right	<b>23006-920</b>

### Note

- 32-bit system slot left on request
- 64-bit system slot left on request

# Backplanes – CompactPCI

## CompactPCI secondary backplanes, system slot to right



Photo shows primary and secondary backplane with inserted bridge and fitted rear transition board

12401021



ServicePLUS see page 8.112



- In accordance with
  - PICMG 2.0 R3.0 CompactPCI Core Specification
  - PICMG 2.1 R2.0 Hot-swap Specification
  - PICMG 2.9 R1.0 System Management Bus Specification
  - PICMG 2.10 R1.0 Keying Specification
- Secondary backplane for use behind the bridge
- A summary of possible backplane/bridge combinations can be found on the Schroff website
- Secondary backplanes can also be used as tertiary backplanes; change of geographical address see user manual

### Delivery comprises

Item	Qty	Description
1	1	CompactPCI backplane
2	1	Kit screws M4 x 6, with lock washers, for power connection

### Order Information

Number of slots	Height	Description	Part no.
	U		
4	3	32-bit	<b>23006-824</b>
7	3	32-bit	<b>23006-827</b>

### Accessories

Screws, washers for backplane mounting	Page 10.30
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### Note

- Other configurations available on request or via [www.schroff.co.uk/configuration](http://www.schroff.co.uk/configuration)

## Backplanes – PXI

### PXI backplanes

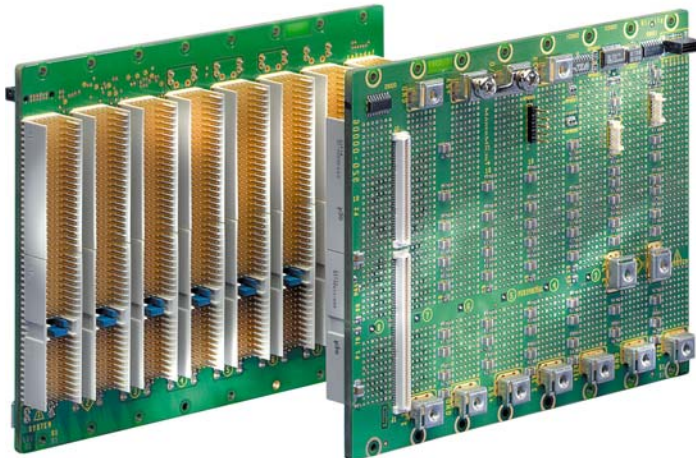


Photo shows 23006-578

12402004



ServicePLUS see page 8.112



- In accordance with
  - PXI Specification R 2.0
  - PICMG 2.0 R3.0 CompactPCI Core Specification
  - PICMG 2.1 R2.0 Hot-swap Specification
  - PICMG 2.9 R1.0 System Management Bus Specification
  - PICMG 2.10 R1.0 Keying Specification
- 64-bit CompactPCI bus and PXI bus on the P2 plane
- Clock generated on the backplane; feeding in an external clock is possible, the backplane switches automatically between the two clocks
- Backplanes with up to 5 slots are capable of 66 MHz, 6 to 8 slot backplanes are set to 33 MHz operation
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Utility connector for status signals
- Intelligent platform management bus (IPMB) connector to PICMG 2.9

### Delivery comprises

Item	Qty	Description
1	1	PXI backplane
2	1	Kit screws M4 x 6, with lock washer, for power connection

### Order Information

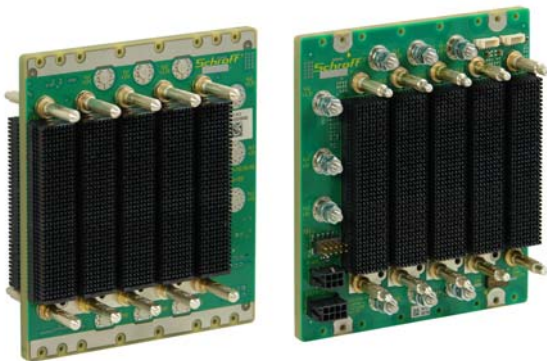
Number of slots	System slot	5 V V(I/O)	Part no.
5	left	primary	<b>23006-575</b>
7	left	primary	<b>23006-577</b>
8	left	primary	<b>23006-578</b>
4	left	tertiary	<b>23006-594</b>
Accessories			
Screws, washers for backplane mounting			Page 10.30

### Note

- Other configurations available on request or via [www.schroff.co.uk/configuration](http://www.schroff.co.uk/configuration)

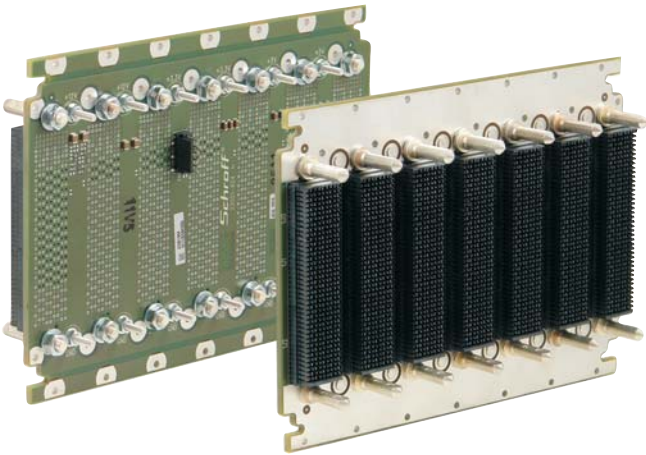
# Backplanes – VPX

## VPX backplane, 3 U



VPX backplane, 3 U, 5 slot, with rear I/O

10513002



VPX backplane, 3 U, 7 slot, without rear I/O

10512002

- In accordance with:
  - VITA 46.0 VPX base standard
  - VITA 46.3 Serial RapidIO on VPX
  - VITA 46.4 PCI Express on VPX Fabric Connector
  - VITA 46.7 Ethernet on VPX Fabric Connector
  - VITA 46.11 System Management on VPX
  - Version with rear I/O: VITA 46.10 Rear Transition Module for VPX
- JTAG connections
- 3 U, 5 slot, 0.8" slot pitch, full mesh topology to VITA 46.21 distributed switching on VPX rule 4 – 5 with additional slot for power supply
- 3 U, 7 slot, conforms additionally to VITA 65 OpenVPX
  - 6 payload slots, 1 switch slot with 1.0" slot pitch, single star topology conforming to BKP3-CEN07-15.2.3-3
  - Switch slot to SLT3-SWH-6F6U-14.4.1
  - Payload slots to SLT3-PAY-2F2U-14.2.3
- M4 power studs for power supply, max. 22 A per slot for each voltage
- Lockable aux utility and sense connectors
- DIP switch for system slot settings

**Order Information**

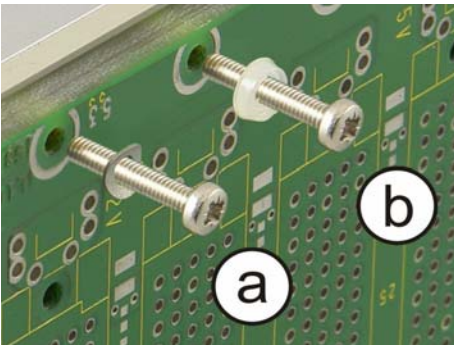
Description	Width mm	Slot pitch	Backplane type	Part no.
Open VPX backplane, 3 U, 7 slot, without rear I/O	121.9	1,0"	Single star	23001-814
Open VPX backplane, 3 U, 7 slot, with rear I/O	176.0	1,0"	Single star	23001-815
VPX backplane, 3 U, 5 slot, without rear I/O	121.9	0,8"	Full Mesh	23001-812
VPX backplane, 3 U, 5 slot, with rear I/O	176.0	0,8"	Full Mesh	23001-813

**Accessories**

<b>Screws, washers for backplane mounting</b>	<b>Page 10.30</b>
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**Note**

- Backplane to VITA 46.10; rear transition modules on request



Backplane mounting: a: conductive, b: isolated

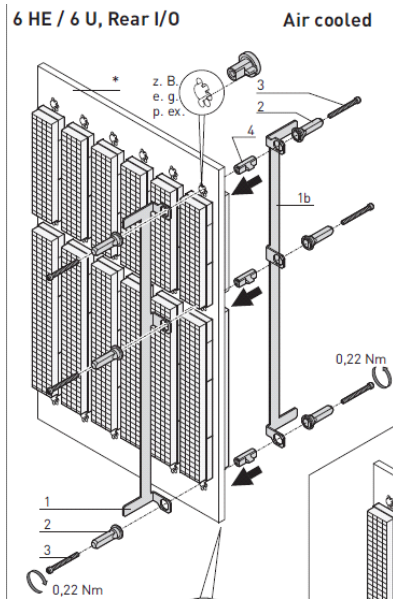
10508004



ServicePLUS see page 10.31

## Backplanes – VMEbus

### Keying and alignment for VPX backplanes



- Conforms to VITA 46.0
- Keying and alignment for VPX backplane slots with slot spacings 0.8, 0.85 or 1"
- Different versions for air-cooled and conduction-cooled systems
- Air-cooled systems additionally contain stiffening beads that also prevent incorrect insertion of a VPX board (as per VITA 46.0 section 7.9)
- Applications for versions with and without rear I/O
- For board thicknesses 3.6 ... 5.5 mm and 5.5... 7.5 mm
- Simple to fit into the fixing holes provided on every VPX backplane
- One packaging unit contains all components to completely populate 10 slots

#### Delivery includes

Item	Qty	Description
1	10	Keying and alignment for one VPX slot

#### Order Information

Height	Description	Type	Board thickness mm	Part no.
<b>U</b>				
3	Air-cooled	Without Rear I/O	3.6 ... 5.5	20836-550
3	Air-cooled	Without Rear I/O	5.5 ... 7.5	20836-551
3	Air-cooled	With rear I/O	3.6 ... 5.5	20836-552
3	Air-cooled	With rear I/O	5.5 ... 7.5	20836-553
3	Conduction cooled	Without Rear I/O	3.6 ... 5.5	20836-558
3	Conduction cooled	Without Rear I/O	5.5 ... 7.5	20836-559
3	Conduction cooled	With rear I/O	3.6 ... 5.5	20836-560
3	Conduction cooled	With rear I/O	5.5 ... 7.5	20836-561
6	Air-cooled	Without Rear I/O	3.6 ... 5.5	20836-554
6	Air-cooled	Without Rear I/O	5.5 ... 7.5	20836-555
6	Air-cooled	With rear I/O	3.6 ... 5.5	20836-556
6	Air-cooled	With rear I/O	5.5 ... 7.5	20836-557
6	Conduction cooled	Without Rear I/O	3.6 ... 5.5	20836-562
6	Conduction cooled	Without Rear I/O	5.5 ... 7.5	20836-563
6	Conduction cooled	With rear I/O	3.6 ... 5.5	20836-564
6	Conduction cooled	With rear I/O	5.5 ... 7.5	20836-565

12402004



ServicePLUS see page 8.112

## Backplanes – VME64 extension

### Monolithic VME64x backplanes (6 U)

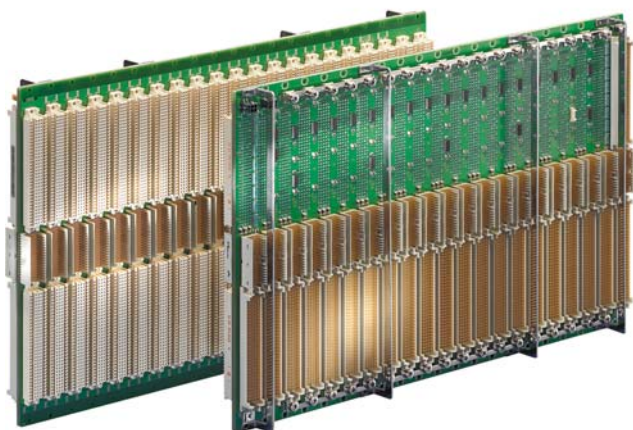
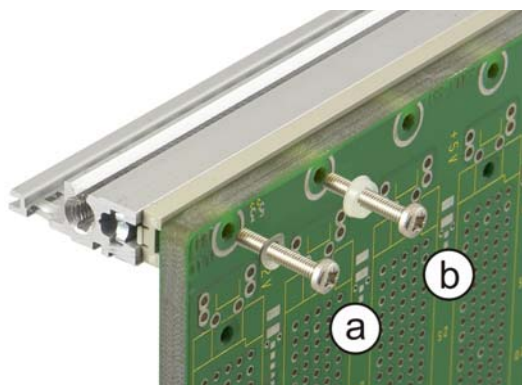
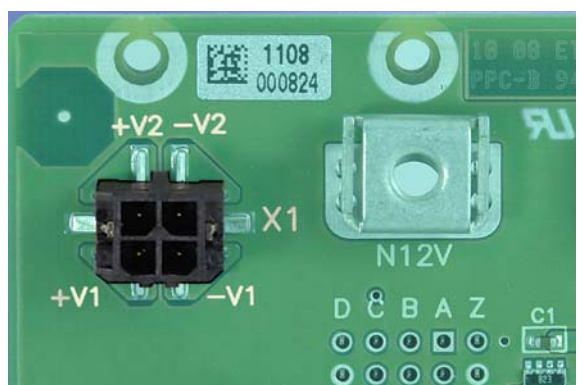


Photo shows 23001-551



Backplane mounting: a: conductive, b: isolated



Connector for additional voltages V1/V2



ServicePLUS see page 10.31

- In accordance with:
  - ANSI/VITA 1-1994 VME64 Standard
  - ANSI/VITA 1.1-1997 VME64 Extension Standard
  - ANSI/VITA 1.5-2003 VME2eSST Specification
  - ANSI/VITA 1.7-2003 Increased Current Level
  - ANSI/VITA 38 System Management on VME
- Monolithic backplane, 6 U with J1 and J2 plane
- Termination passive
- Electronic automatic daisy chain (EDC)
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Connection or isolation between the digital GND and chassis GND can be effected via the screw fittings (see photo)
- Supply voltages can be applied via powerbugs (ring tag M4) or FASTON
- Utility connector for status signals
- System management bus (SMB) connector in accordance with VITA38
- Connector for additional voltages V1/V2 (see photo)

### Delivery comprises

Item	Qty	Description
1	1	VME64x backplane
2	1	Kit screws M4 × 6, with lock washer; for power connection

### Order Information

Number of slots	Width mm	Height U	Without P0	With P0
			Part no.	Part no.
2	39.1	6	<b>23001-502</b>	23001-532
3	59.5	6	<b>23001-503</b>	23001-533
4	79.8	6	<b>23001-504</b>	23001-534
5	100.2	6	<b>23001-505</b>	23001-535
6	120.5	6	<b>23001-506</b>	23001-536
7	140.8	6	<b>23001-507</b>	23001-537
8	161.1	6	<b>23001-508</b>	23001-538
10	201.8	6	<b>23001-510</b>	23001-540
11	222.0	6	<b>23001-511</b>	23001-541
12	242.4	6	<b>23001-512</b>	23001-542
15	303.4	6	<b>23001-515</b>	23001-545
16	323.7	6	<b>23001-516</b>	23001-546
20	405.0	6	<b>23001-520</b>	23001-550
21	425.3	6	<b>23001-521</b>	23001-551

### Accessories

<b>SM bus/IPMB cable</b> 4 individual wires with SMB plug to open end, length 750 mm, 1 piece	<b>23204-113</b>
<b>Utility cable SMCQ</b> with flat ribbon cable, length 350 mm, 2 × 12-pin female connector, 1 piece	<b>23204-115</b>
<b>Utility cable SMCQ</b> with flat ribbon cable, length 600 mm, 2 × 12-pin female connector, 1 piece	<b>23204-116</b>
<b>Screws, washers for backplane mounting</b>	<b>Page 10.30</b>

## Backplanes – VXS

### VXS

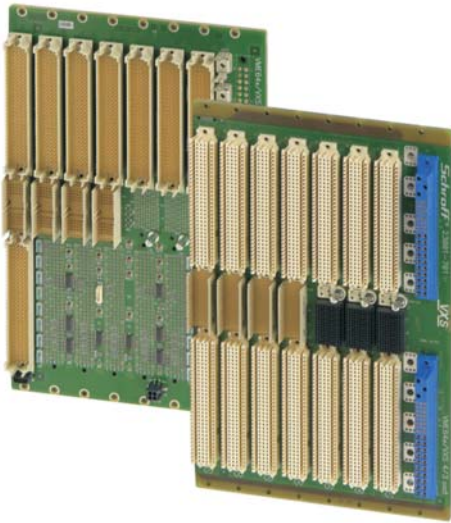


Photo shows 23001-701

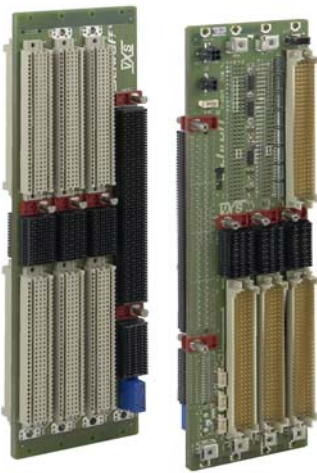
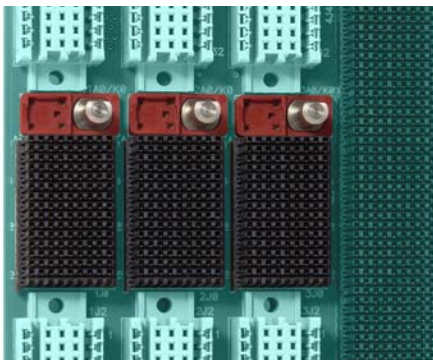


Photo shows 23001-704



High-speed connector with keying and alignment pin



ServicePLUS see page 10.31

- In accordance with
  - ANSI/VITA 41 VXS VMEbus Switched Serial Standard
  - ANSI/VITA 1-1994 VME64 Standard
  - ANSI/VITA 1.1-1997 VME64 Extension Standard
  - ANSI/VITA 1.5-2003 VME2eSST Specification
  - ANSI/VITA 1.7-2003 Increased Current Level
  - ANSI/VITA 38 System Management on VME
- Parallel VMEbus on J1 and J2, serial data connections on P0
- MultiGig RT2 connector on P0 position for data transfer rates up to 10 Gbps per differential pair
- Dual star, star and ring topologies
- Keying and alignment pins to avoid mechanical and electrical damage
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Supply voltages can be applied via powerbugs (ring tag M4), FASTONs or P47 connectors
- Utility connector for status signals
- System management bus (SMB) connector in accordance with VITA38
- Connector for additional voltages V1/V2

10506004

10508002

10508009

### Delivery comprises

Item	Qty	Description
1	1	VXS backplane
2	1	Set of M4x6 bolts, with lock washer; for power connection

### Order Information

Number of slots	Width mm	Height U	Description	Part no.
4	80.3	6	1 VXS switch slot and 3 VXS payload slots	<b>23001-704</b>
7	151.4	6	4 VME64x slots, 3 VXS payload slots, ring connected, 1 slot for 2 x 3 U PSUs, without VXS rear I/O	<b>23001-701</b>
12	242.0	6	2 VXS switch slots and 10 VXS payload slots	<b>23001-712</b>
20	405.4	6	2 VXS switch slots and 18 VXS payload slots	<b>23001-720</b>

### Accessories

<b>SM bus/IPMB cable</b> 4 individual wires with SMB plug to open end, length 750 mm, 1 piece	<b>23204-113</b>
<b>Utility cable SMCQ</b> with flat ribbon cable, length 350 mm, 2 x 12-pin female connector, 1 piece	<b>23204-115</b>
<b>Utility cable SMCQ</b> with flat ribbon cable, length 600 mm, 2 x 12-pin female connector, 1 piece	<b>23204-116</b>
<b>Keying and alignment pin for VXS</b> Payload slot with RTM, PU 10 pieces	<b>20817-900</b>
<b>Keying and alignment pin for VXS</b> Payload slot without RTM, PU 10 pieces	<b>20817-969</b>
<b>Keying and alignment pin for VXS</b> Switch slots, PU 10 pieces	<b>20817-970</b>
<b>Screws, washers for backplane mounting</b>	<b>Page 10.30</b>

# Backplanes – VMEbus

## Monolithic J1/J2 backplane (6 U)

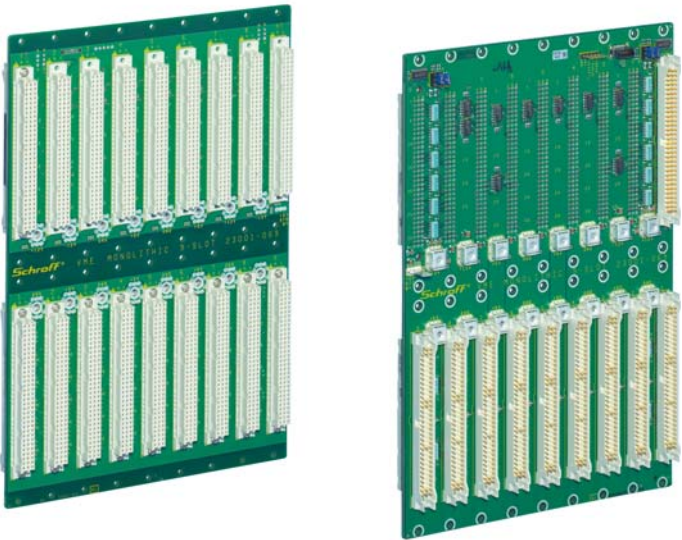


Photo shows 23001-069

10506003

- In accordance with ANSI/VITA 1-1994 VME64 standard
- Monolithic backplane, 6 U with J1 and J2 plane
- Active/passive termination switchable via jumpers; passive termination preset (see photo)
- Electronic automatic daisy chain (EDC)
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Linking/separation of digital and chassis GNDs by means of a screw connection (see photo)
- Supply voltages provided via power bugs (ring tag M4) or FASTON
- Two utility connectors for status signals, two different configurations (see photo)

### Delivery comprises

Item	Qty	Description
1	1	VME monolithic J1/J2 backplane
2	1	Kit screws M4x6, with lock washer, for power connection

### Order Information

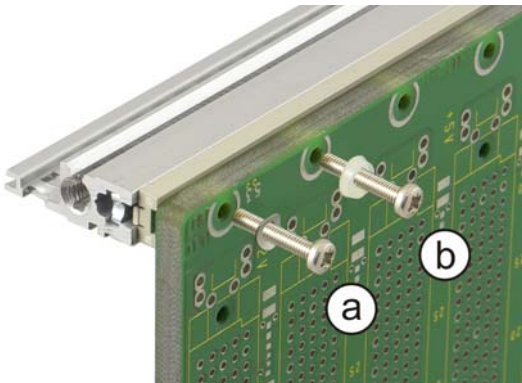
Number of slots	Width mm	Height U	Utility connector 2	Part no.
3	59.5	6	MicroMatch	<b>23001-063</b>
4	79.8	6	MicroMatch	<b>23001-064</b>
5	100.2	6	MicroMatch	<b>23001-065</b>
6	120.5	6	MicroMatch	<b>23001-066</b>
7	140.8	6	MicroMatch	<b>23001-067</b>
8	161.1	6	MicroMatch	<b>23001-068</b>
9	181.4	6	SMCQ	<b>23001-069</b>
10	201.8	6	MicroMatch	<b>23001-070</b>
12	242.4	6	MicroMatch	23001-072
15	303.4	6	MicroMatch	<b>23001-075</b>
20	405.0	6	SMCQ	<b>23001-080</b>
21	425.3	6	MicroMatch	<b>23001-081</b>

### Accessories

<b>Utility cable MicroMatch</b> with single conductors, length 600 mm, 1 piece	<b>23204-812</b>
<b>Utility cable MicroMatch</b> with flat ribbon cable, length 600 mm, 1 piece	<b>23204-811</b>
<b>Utility cable SMCQ</b> with flat ribbon cable, length 350 mm, 2 × 12-pin female connector, 1 piece	<b>23204-115</b>
<b>Utility cable SMCQ</b> with flat ribbon cable, length 600 mm, 2 × 12-pin female connector, 1 piece	<b>23204-116</b>
<b>Screws, washers for backplane mounting</b>	<b>Page 10.30</b>

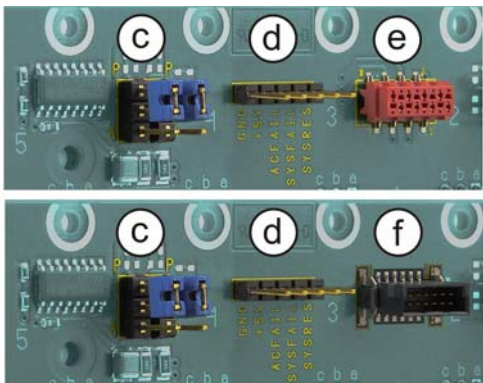
### Note

- Other configurations available on request or via [www.schroff.co.uk/configuration](http://www.schroff.co.uk/configuration)



Backplane mounting: a: conductive, b: isolated

10508004



10509001

c: termination switchover active/passive, d: utility connector 1, e: utility connector 2 MicroMatch, f: utility connector 2 SMCQ



ServicePLUS see page 10.31

## Backplanes – VMEbus

### J1 backplane (3 U)

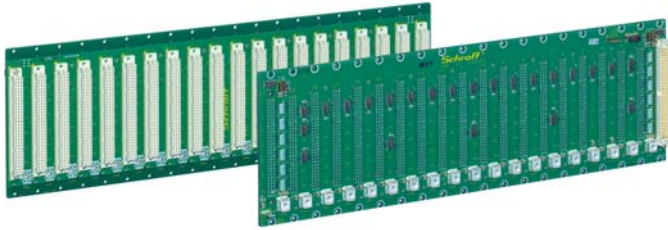
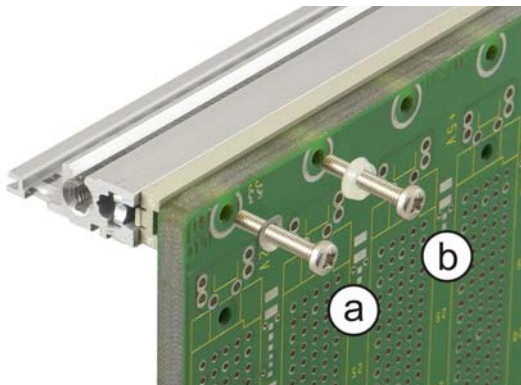
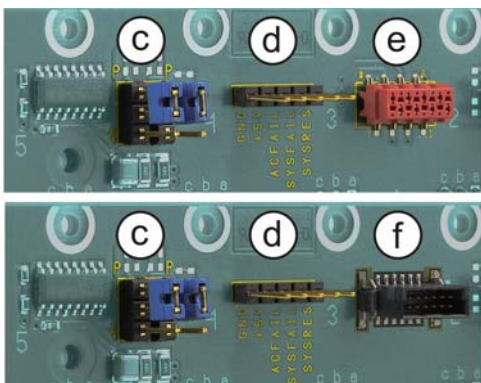


Photo shows 23001-020



Backplane mounting: a: conductive, b: isolated



c: termination switchover active/passive,  
d: utility connector 1, e: utility connector 2  
MicroMatch, f: utility connector 2 SMCQ



ServicePLUS see page 10.31

- In accordance with ANSI/VITA 1-1994 VME64 standard
- 3 U with J1 plane
- Active/passive termination switchable via jumpers; passive termination preset (see photo)
- Electronic automatic daisy chain (EDC)
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Linking/separation of digital and chassis GNDs by means of a screw connection (see photo)
- Supply voltages provided via power bugs (ring tag M4) or FASTON
- Two utility connectors for status signals, two different configurations (see photo)

10506001

### Delivery comprises

Item	Qty	Description
1	1	VME J1 backplane
2	1	Kit screws M4x6, with lock washer; for power connection

### Order Information

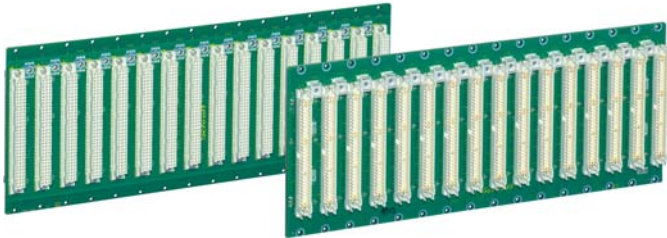
Number of slots	Width mm	Height U	Utility connector 2	Part no.
1	20.2	3	-	23001-001
2	39.1	3	MicroMatch	23001-002
3	59.7	3	MicroMatch	23001-003
4	79.8	3	MicroMatch	23001-004
5	100.2	3	MicroMatch	23001-005
6	120.5	3	MicroMatch	23001-006
7	140.8	3	SMCQ	23001-007
8	161.1	3	MicroMatch	23001-008
9	181.4	3	MicroMatch	23001-009
10	199.2	3	SMCQ	23001-010
12	242.4	3	SMCQ	23001-012
15	303.4	3	MicroMatch	23001-015
17	341.4	3	MicroMatch	23001-017
18	364.3	3	MicroMatch	23001-018
20	405.0	3	MicroMatch	23001-020
21	425.3	3	MicroMatch	23001-021

### Accessories

Utility cable MicroMatch with single conductors, length 600 mm, 1 piece	23204-812
Utility cable MicroMatch with flat ribbon cable, length 600 mm, 1 piece	23204-811
Utility cable SMCQ with flat ribbon cable, length 350 mm, 2 × 12-pin female connector, 1 piece	23204-115
Utility cable SMCQ with flat ribbon cable, length 600 mm, 2 × 12-pin female connector, 1 piece	23204-116
<b>Screws, washers for backplane mounting</b>	<b>Page 10.30</b>

# Backplanes – VMEbus

## J2 backplane (3 U)



- In accordance with ANSI/VITA 1-1994 VME64 standard
- 3 U with J2 plane
- Termination passive
- Outstanding high-frequency noise suppression and very high MTBF values due to ceramic capacitors
- Multiple backplanes can be placed side by side without loss of slot space
- Connection or isolation between the digital GND and chassis GND can be effected via the screw fittings (see photo)
- Supply voltages can be provided via powerbugs (ring tag M4) or FASTONS (see photo)

Photo shows 23001-046

10506002



### Delivery comprises

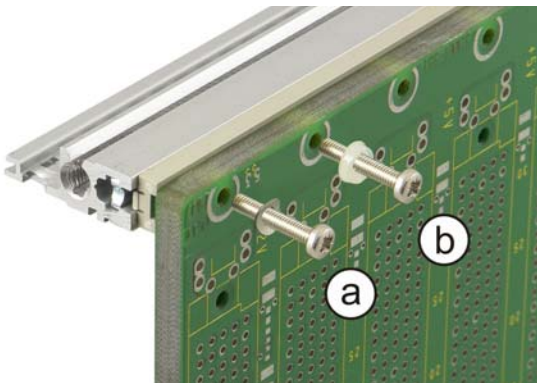
Item	Qty	Description
1	1	VME J2 backplane
2	1	Set of 6 M4 bolts, with lock washer; for power connection

### Order Information

Number of slots	Width mm	Height U	Part no.
2	40.4	3	<b>23001-032</b>
3	59.7	3	23001-033
4	79.8	3	23001-034
5	100.2	3	<b>23001-035</b>
10	199.2	3	23001-040
16	321.3	3	<b>23001-046</b>
21	425.3	3	<b>23001-051</b>

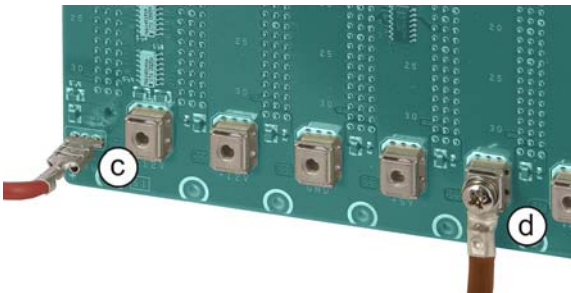
### Accessories

Screws, washers for backplane mounting	Page 10.30
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10508004

Backplane mounting: a: conductive, b: isolated



10508006

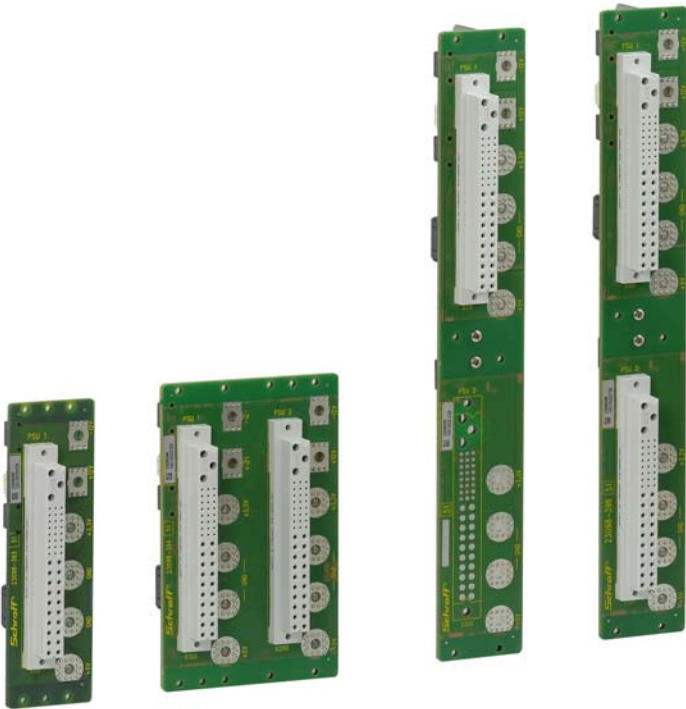
Supply voltage feed:  
 c: cable with blade receptacle pushed onto FASTON  
 d: cable with ring tag screwed to powerbug, with M4 screw and lock washer



ServicePLUS see page 10.31

## Backplanes

### Power backplane with P47 connector



- In accordance with: PICMG 2.11 R1.0 CompactPCI Power Interface specification and PICMG 2.9 R1.0 System Management Bus specification
- Single, parallel or redundant operation possible
- Direct current outlets for high currents with virtually no voltage reduction
- Geographical address adjustable
- Power supply over crimp contacts insertable into the plug, no supply voltage on the backplane
- Power cable available as an accessory
- DC outlets with powerbugs for extremely low drops in voltage

#### Delivery includes

Item	Qty.	Description
1	1	Power backplane with P47 connector
2	1	Set, combination screw M4 x 6 in accordance with DIN 6900

#### Order Information

Width HP	Width mm	Number of slots	Power connector	Height U	Part no.
8	39.6	1	1 x P47	3	23098-393
16	80.3	2	2 x P47	3	23098-394
8	39.6	1	1 x P47	6	23098-395
8	39.6	1	2 x P47	6	23098-396

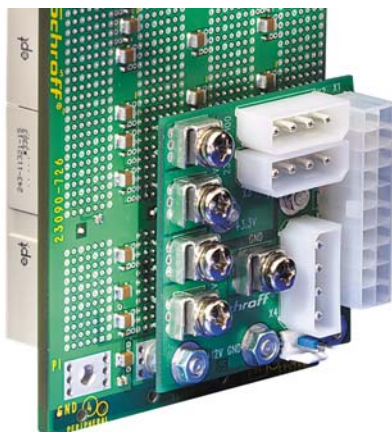
#### Accessories

<b>Power cable</b> 3-wire, 500 mm, 1 piece	23204-110
<b>Utility/sense cable</b> Flat ribbon cable, length 350 mm, 2 x 12-pin female connector, 1 piece	23204-115
<b>Utility/sense cable</b> Flat ribbon cable, length 600 mm, 2 x 12-pin female connector, 1 piece	23204-116
<b>SM bus/IPMB cable</b> 4 individual wires with SMB plug to open end, length 750 mm, 1 piece	23204-113
<b>Current-sharing flat ribbon cable, 150 mm, 2 x 4-pin MicroMatch</b> 1 piece	23204-867
<b>Utility cable MicroMatch</b> with single conductors, length 600 mm, 1 piece	23204-812
<b>Utility cable MicroMatch</b> with flat ribbon cable, length 600 mm, 1 piece	23204-811



ServicePLUS see page 10.31

### Power piggyback



- Allows connection of pluggable power supplies, e.g. ATX PSUs, to CompactPCI backplanes
- Simply mounts on the PSU screw connections on the rear of Schroff CompactPCI backplanes

#### Delivery comprises

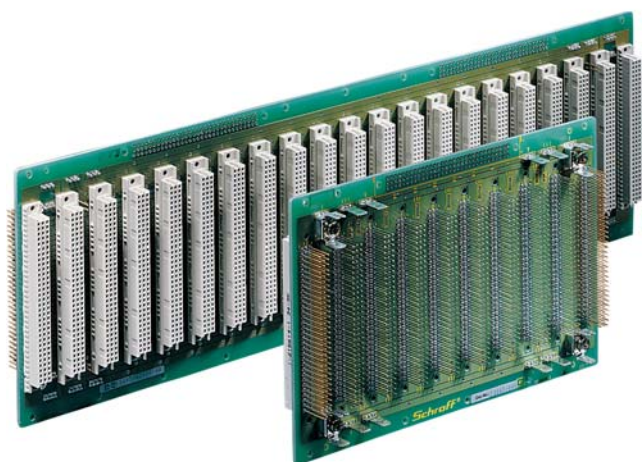
Item	Qty	Description
1	1	Power piggyback

#### Order Information

Description	Qty/PU	Part no.
Power piggyback	1	23098-100

## Backplanes

### Universal backplanes



Universal backplanes with through-connected signal lines, 10 and 21 slot

12096003

#### With through-connected signal lines

- Power supply at each connector position (row 1 + 32)
- Adaptation fields for power connections on 2-layer backplanes
- Two versions:
  - 60 signal lines, through-connected from connector to connector (C64), row „b“ can be freely wired (2 layers with C96 connector), wire-wrap
  - 90 signal lines, through-connected from connector to connector

#### Without through-connected signal lines

- Individual wiring of connectors is possible since signal lines are not through-connected
- Power supply at each connector position (row 1 + 32)
- Adaptation fields for connections

#### Delivery comprises

Item	Qty	Description
1	1	Universal backplane
2	10	Bridges, grid 5.08 mm
3	3	Jumpers
4	1	10-pin header

#### Order Information

##### with through-connected signal lines

Number of slots	Slot pitch HP	Width HP	No. of layers	Connector type	No. of signal lines	Part no.
10	4	42	2	C64F	60	<b>23007-010</b>
10	4	42	2	C96F	60	23007-040
10	4	42	4	C96F	90	<b>23007-410</b>
14	3	42	2	C64F	60	23007-114
21	4	84	2	C64F	60	<b>23007-021</b>
21	4	84	2	C96F	60	23007-051
21	4	84	2	-	60	23007-081
21	4	84	4	C96F	90	<b>23007-421</b>
28	3	84	2	C64F	60	23007-128
28	3	84	2	C96F	60	23007-158
28	3	84	2	-	60	<b>23007-188</b>

Connector "-": not equipped, 96 solder points

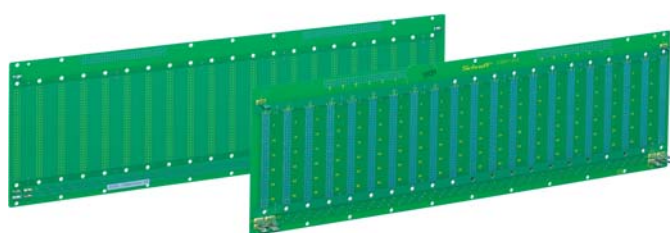
#### Order Information

##### without through-connected signal lines

Number of slots	Slot pitch HP	Width HP	No. of layers	Part no.
21	4	84	2	23007-222

#### Accessories

Screws, washers for backplane mounting	Page 10.30
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Universal backplanes without through-connected signal lines, 21 slots

12006001



ServicePLUS see page 10.31

## Test adaptors

### Test adaptors, type B

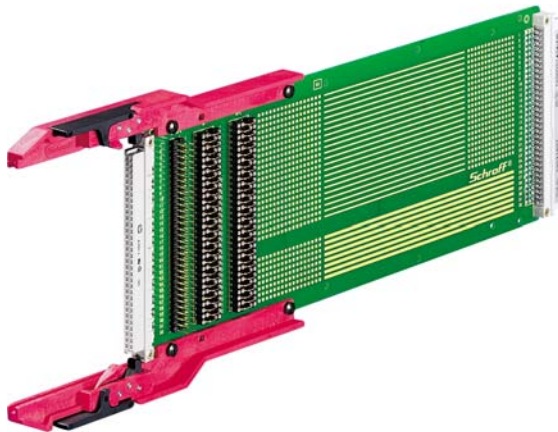
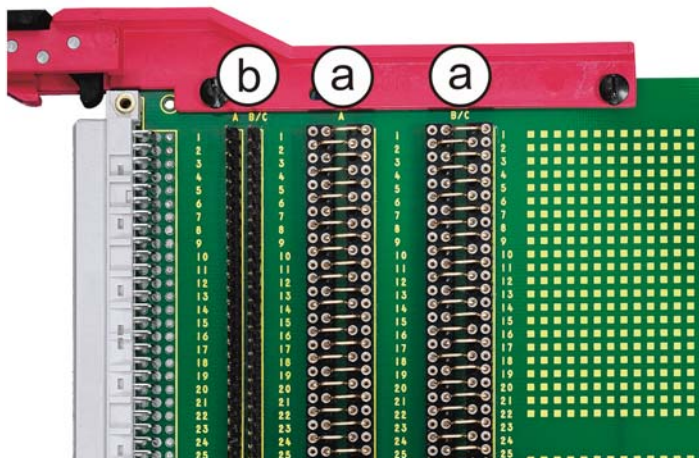


Photo shows 23021-607

11100018



a: Measuring field for current and voltage measurement  
b: Header for wire wrap

11100019

- For DIN 41612 connectors, type B
- Measuring field for current and voltage measurement (U/I), (a)
- Header with pin diameter 0.6 mm for wire wrap (b)
- Outer pin rows (pin 1a, c and pin 32a, c) with wider tracks for power supply (2 A per track)

### Delivery comprises

Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement test bridges

### Order Information

Connector type	Height U	For board depth mm	Backplane type	Measuring field for	Part no.
B64	3	160	1L	U / I	23021-607
B64	3	220	1L	U / I	23021-651

### Note

- Detailed dimensions and test adaptor types see page 10.29
- 6/9 U test adaptors see page 10.27



ServicePLUS see page 10.31

## Test adaptors

### Test adaptors, type C

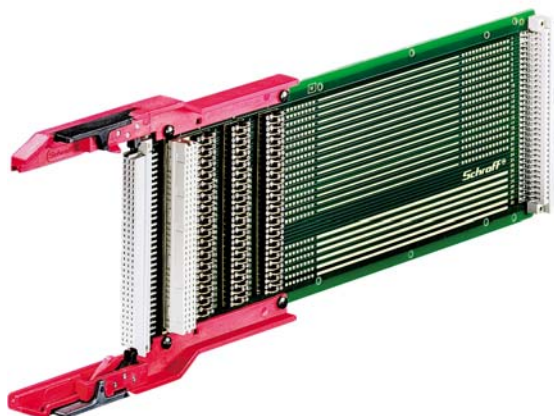
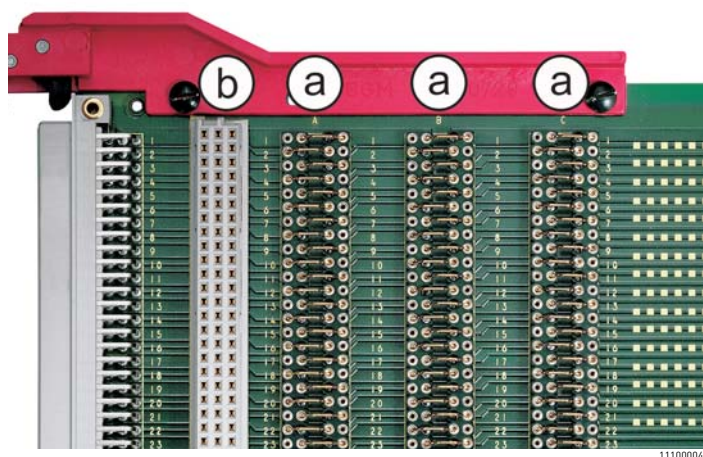


Photo shows 23021-609

11100003



11100004

a: Measuring field for current and voltage measurement  
b: Connector position for a second test object



ServicePLUS see page 10.31

- For DIN 41612 connectors, type C

- 2 different measuring fields:
  - current and voltage measurement (U/I): pluggable test bridges
  - voltage measurement (U): soldered test bridges

- Connector type C64: Header with pin diameter 0.6 mm for wire wrap

- Connector type C96: Slot for second test unit or terminator board (b)

- Outer pin rows (C96: pin 1a, b, c and pin 32a, b, c; C64: pin 1a, c and pin 32a, c) with wider tracks for power supply (2 A per track)

### Delivery comprises

Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement test bridges

### Order Information

Connector type	Height U	For board depth mm	Backplane type	Measuring field for	Part no.
C 64	3	160	1L	U / I	23021-608
C 64	3	220	2L	U / I	23021-652
C 64	6	160	1L	U / I	23022-601
C 96	3	160	2L	U	<b>23021-603</b>
C 96	3	160	2L	U / I	23021-609
C 96	3	160	4L	U / I	23021-610
C 96	3	220	2L	U / I	<b>23021-653</b>
C 96	3	220	4L	U / I	<b>23021-654</b>
C 96	3	280	2L	U / I	23021-700
C 96	3	280	4L	U / I	23021-701
C 96	3	340	4L	U / I	23021-750
C 96	6	160	2L	U / I	<b>23022-602</b>
C 96	6	160	4L	U / I	<b>23022-603</b>
C 96	6	220	2L	U / I	<b>23022-652</b>
C 96	6	280	2L	U / I	<b>23022-700</b>

### Note

- Detailed dimensions and test adaptor types see page 10.29
- 6/9 U test adaptors see page 10.27

## Test adaptors

### Test adaptors, type D

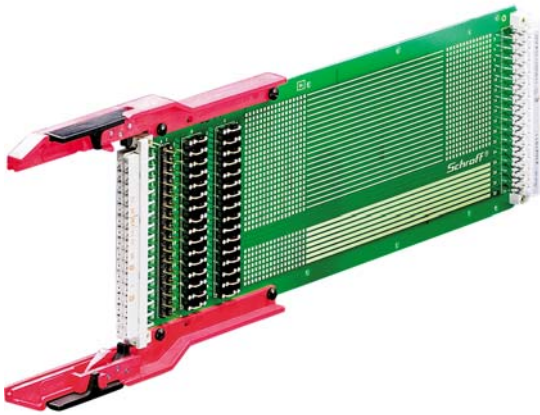


Photo shows 23021-611

11100005

- For DIN 41612 connectors, type D
- 2 different measuring fields:
  - current and voltage measurement (U/I): pluggable test bridges
  - voltage measurement (U): soldered test bridges
- Header with pin diameter 0.6 mm for wire wrap (b)
- Outer pin rows (pin 1a, c and pin 16a, c) with wider tracks for power supply (2 A per track)

#### Delivery comprises

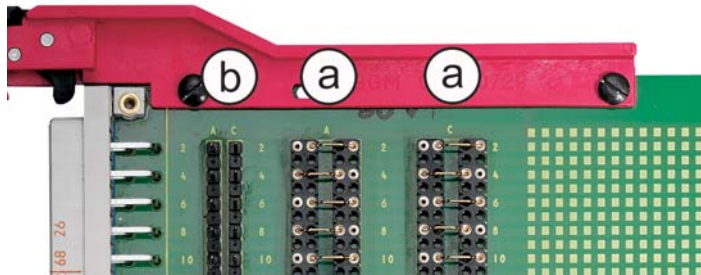
Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement test bridges

#### Order Information

Connector type	Height U	For board depth mm	Backplane type	Measuring field for	Part no.
D32	3	160	1L	U / I	23021-611
D32	3	160	1L	U	23021-604
D32	3	220	1L	U / I	23021-655

#### Note

- Test adaptor type D cannot be used in combination with the adapter of other types
- Detailed dimensions and test adaptor types see page 10.29



a: Measuring field for current and voltage measurement  
b: Header for wire wrap

11100006

### Test adaptors, type E

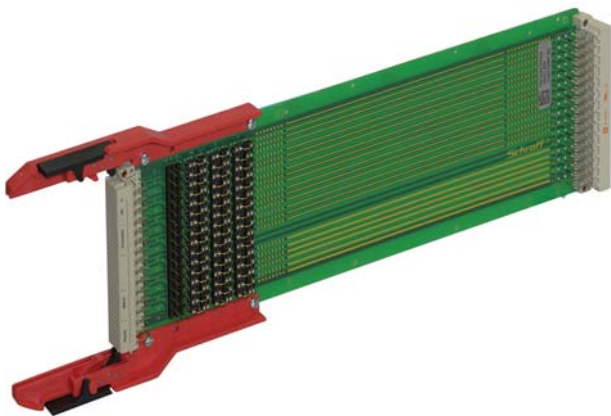


Photo shows 23021-656

11107001

- For DIN 41612 connectors, type E
- Measuring field for current and voltage measurement (U/I), (a)
- Header with pin diameter 0.6 mm for wire wrap (b)
- Outer pin rows (pin 1a, c, e and pin 31a, c, e) with wider tracks for power supply (2 A per track)

#### Delivery comprises

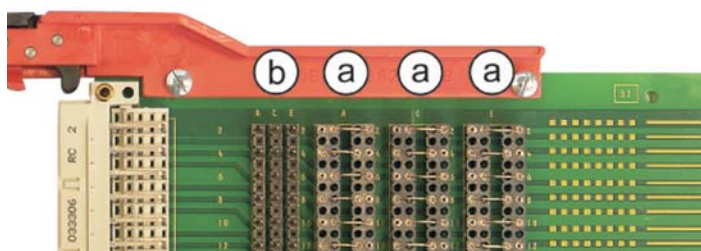
Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement test bridges

#### Order Information

Connector type	Height U	For board depth mm	Backplane type	Measuring field for	Part no.
E48	3	220	2L	U / I	23021-656

#### Note

- Detailed dimensions and test adaptor types see page 10.29
- 6/9 U test adaptors see page 10.27



a: Measuring field for current and voltage measurement  
b: Header for wire wrap

11107002

# Test adaptors

## Test adaptors, type F

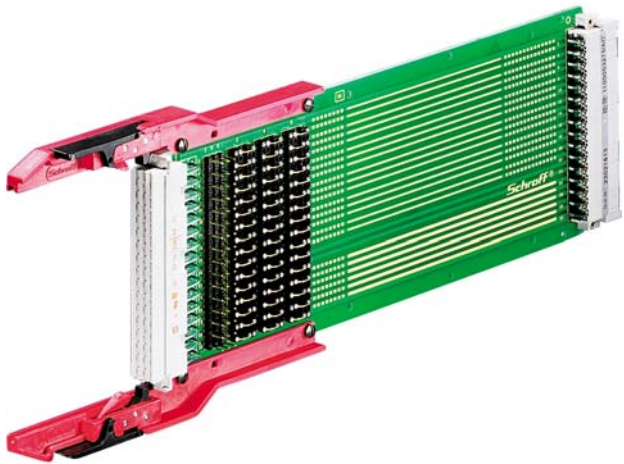


Photo shows 23021-613

11100008

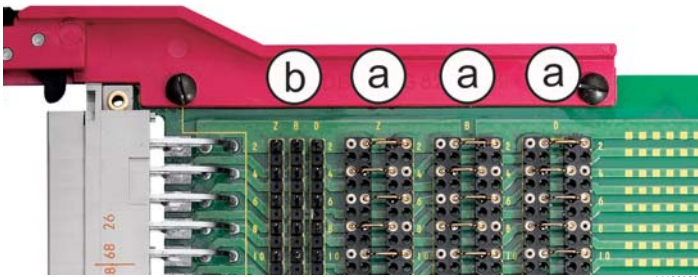
- For DIN 41612 connectors, type F
- 2 different measuring fields:
  - current and voltage measurement (U/I):  
pluggable test bridges
  - voltage measurement (V):  
soldered test bridges
- Header with pin diameter 0.6 mm for wire wrap (b)
- Outer pin rows (pin 1a, c, e and pin 16a, c, e) with wider tracks for power supply (2 A per track)

### Delivery comprises

Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement bridges

### Order Information

Connector type	Height U	For board depth mm	Backplane type	Measuring field for	Part no.
F48	3	160	2L	U	23021-605
F48	3	160	2L	U / I	<b>23021-613</b>
F48	6	160	2L	U / I	23022-604
F48	3	220	2L	U / I	<b>23021-657</b>



a: Measuring field for current and voltage measurement  
b: Header for wire wrap

11100009

### Note

- Detailed dimensions and test adaptor types see page 10.29
- Further 6/9 U test adaptors see page 10.27

## Test adaptors, type M



Photo shows 23021-616

11100013

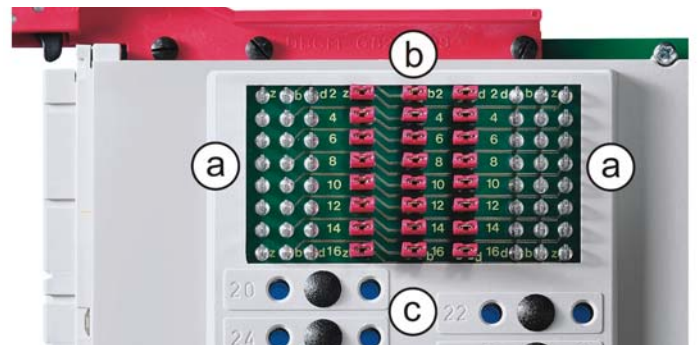
- For DIN 41612 connectors, type M
- 2 versions:
  - M (F/H): with high-current contacts (H)
  - M (C/coax): with coaxial connector contact
- Measuring field versions for current and voltage measurement (U/I):
  - M (F/H):  
F: measurement lugs (a) and measurement pins (b) with jumpers  
H: test bridges (c) (diameter 4 mm)
  - M (C/coax):  
C: test bridges pluggable,  
header with pin diameter 0.6 mm for wire wrap

### Delivery comprises

Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement test bridges

### Order Information

Connector type	Height U	For board depth mm	Backplane type	Measuring field for	Part no.
M (F24/H7)	3	160	2L	U / I	<b>23021-616</b>
M (F24/H7)	3	220	2L	U / I	<b>23021-660</b>



Test adaptor M (F24/H7), a: Measurement lugs,  
b: Measuring pin with jumper, c: Test bridge, diameter 4 mm

11100014

### Note

- Detailed dimensions and test adaptor types see page 10.29

## Test adapters

### Test adaptors for VMEbus

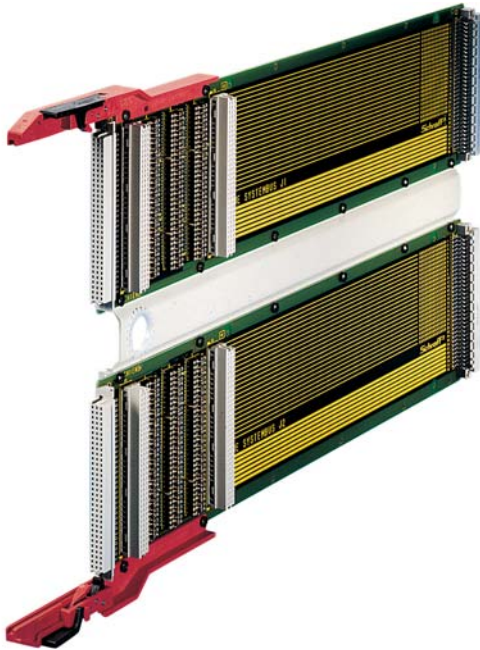
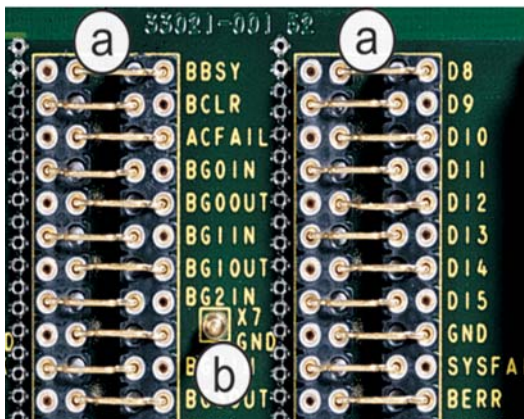


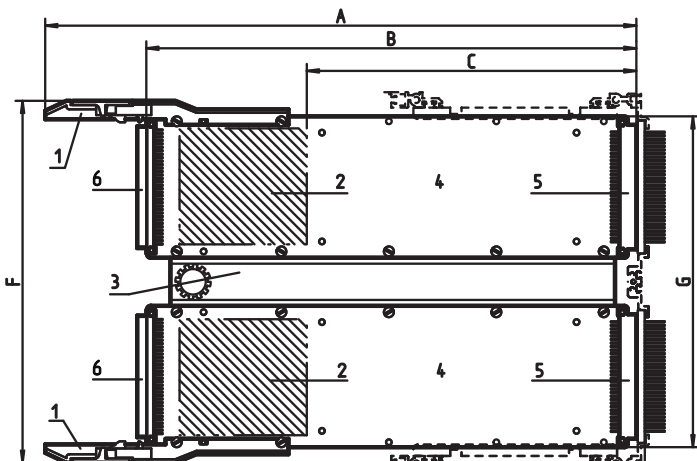
Photo shows 6 U test adaptor

11192004



a: measuring field for current and voltage measurement  
b: Measuring pin, e.g. for test prod

11196001



Dimensional drawing of test adaptor

taa43143

- Layout of conductive tracks and layer build-up match the requirements of the VME bus
- Measuring field version for current and voltage measurement (V/I), (a)
- Additional measuring pins, e.g. for the probe tips of an oscilloscope (b)
- 1 pin position for second test object, 1 pin position for terminator board
- Voltage supply lines are designed for 2 A
- 6 U test adaptors consist of two 3 U test adaptors linked via an intermediate adaptor

### Delivery comprises

Item	Qty	Description
1	1	Test adaptor with fitted guide rails and equipped test bridges
2	10	Replacement test bridges

### Order Information

Height U	For board depth mm	Connector type		Part no.
		P1	P2	
3	160	C96	-	23021-001
3	160	-	C96	23021-100
3	220	C96	-	23021-002
3	220	-	C96	<b>23021-101</b>
6	160	C96	C96	23022-002
6	220	C96	C96	23022-004
6	280	C96	C96	23022-010

P1 = system bus, P2 = I/O bus

### Note

- 9 U test adaptor see page 10.27

### Dimensions table VMEbus test adaptors

Board height	F (mm)	G (mm)
3 U	123.65	100
6 U	257	233.35

For board depth	A (mm)	B (mm)	C (mm)	D (mm)
160 mm	423	350	237	175.24
220 mm	483	410	297	235.24
280 mm	543	470	417	355.24

A = overall length, B = extension

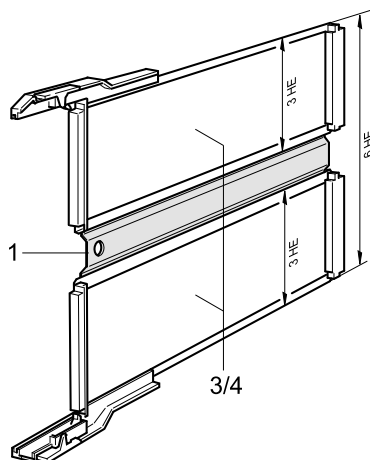


ServicePLUS see page 10.31

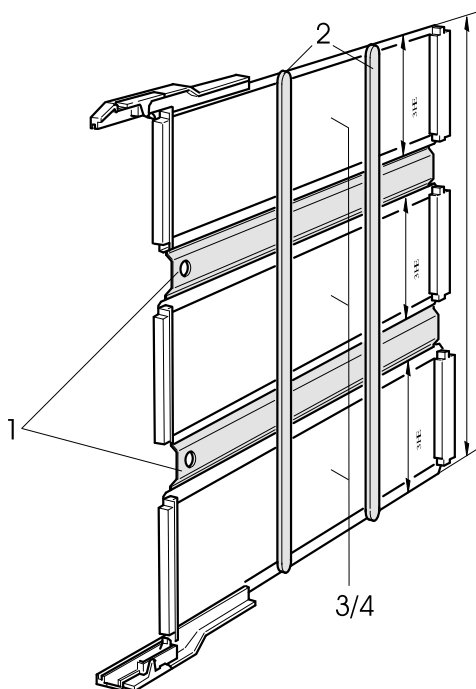
## Test adapters

### 6/9 U test adaptors

6 U



9 U



A4-2550

BPT6567

- Suitable for types B, C, D, E, F
- 6 U test adaptor can be made from:
  - 2 × equal length 3 U test adaptors (3/4)
  - 1 × intermediate adaptor 6 U (1)
  - or
  - 1 × 3 U test adaptor (3/4)
  - 1 × bare board (item 2 without connector)
  - 1 × intermediate adaptor 6 U (1)
- 9 U test adaptor can be made from:
  - 3 × equal length 3 U test adaptors (3/4)
  - 2 × intermediate adaptor 9 U (1)
  - or
  - 2 × 3 U test adaptors (3/4)
  - 1 × bare board (item 2 without connector)
  - 2 × intermediate adaptor 9 U (1)
 or other combinations  
 test adaptor item 4, type x  
 bare board: item 3

#### Delivery comprises (kit)

Item	Qty		Description
	6 U	9 U	
1	1	2	Intermediate adaptor, St, 1.5 mm, grey, incl. assembly kit
2	-	2	Board stiffener

#### Order Information

Description	For board depth	For test adaptor depth (dimension B)	Part no.
	mm	mm	
6 U	160	290	<b>20800-224</b>
6 U	220	350	<b>20800-168</b>
6 U	280	410	<b>20800-278</b>
6 U	340	470	<b>20800-279</b>
9 U	220	350	<b>23040-001</b>

#### Accessories

<b>Bare board</b> (item 2) 3 U, 160 mm deep without connector, 1 piece	<b>23040-006</b>
<b>Bare board</b> (item 2) 3 U, 220 mm deep without connector, 1 piece	<b>23040-007</b>

#### Note

- Test adaptor type D cannot be combined with other types
- Test adaptor depth (dimension B) of VMEbus test adaptors see page 10.26
- Test adaptor depth (dimension B) at type B, C, D, E, F, see page 10.29

## Test adapters

### Board guides



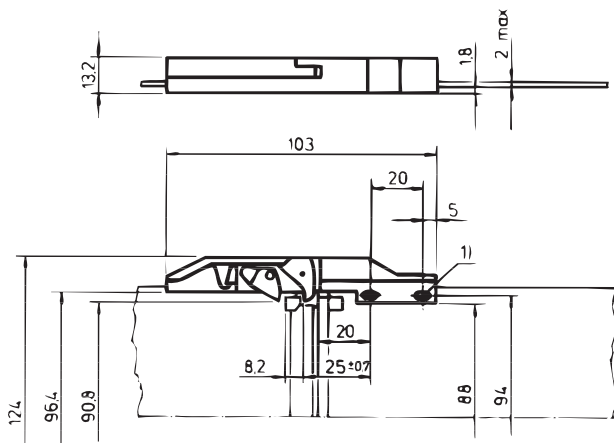
- To hold and lock modules that have to be tested (for replacement purposes only, board guides are included in delivery of all test adaptors)
- Versions
  - Short board guide with/without locking lever
  - Long board guide with/without locking lever

### Order Information

Description	Qty/PU	Part no.
Type: short, with locking lever	2	60800-834
Type: short, without locking lever	1	60800-032
Type: long, with locking lever	2	20800-212
Type: long, without locking lever	2	20800-213

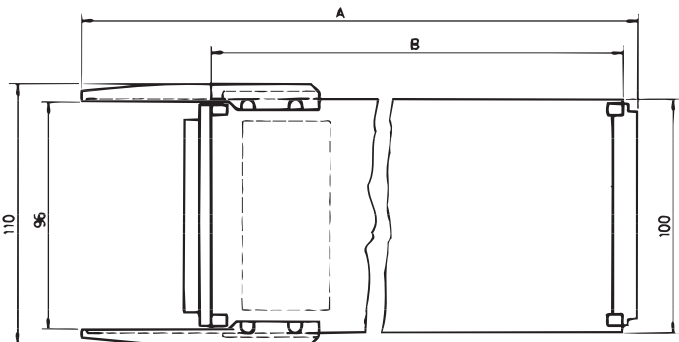
Top: with locking lever, left short, right long;  
bottom: without locking lever, left short, right long

11192009



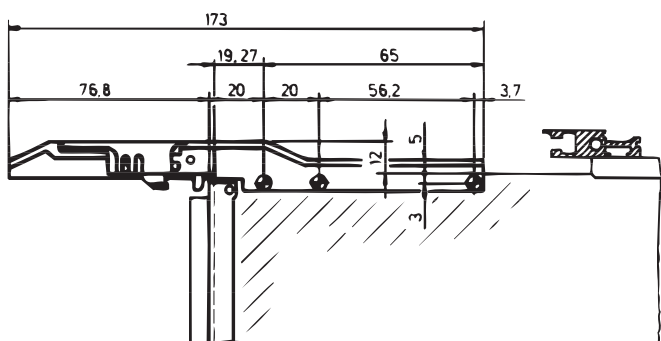
A4-1908

Short board guide



A4-2411

Short board guide without locking lever  
A, B, see "Dimensions test adaptors"



A4-2551

Long board guide without locking lever

# Test adapters

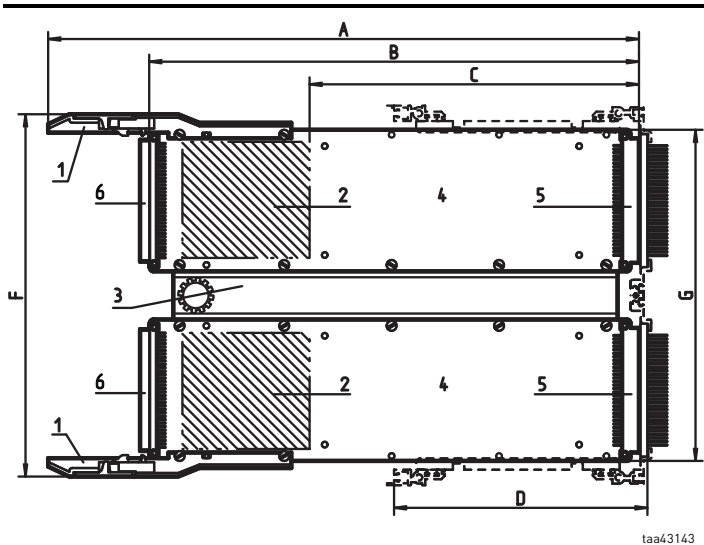
## Types/board versions

Epoxy fibreglass EP-GC02 to DIN 40802 (FR4).  
 Outlying connections (e.g. pins 1a, b, c and pins 32a, b, c) each have a wider PCB track or large-surface tracks on inner layers – e.g. for shielding,  $V_{CC}$ , GND.

Type	
1L	PCB single-sided, laminated (suitable for up to 2 MHz)
2L	PCB, double-sided, laminated and through-connected (suitable for up to approx. 8 MHz)
4L	Multi-layer, 4-layer (suitable for above 8 MHz): Multi-layer technology with large-area inner layers (signal-surface-surface-signal). In the coax version the large-area inner layers can be soldered to the desired pins by means of power links.

## Dimensions test adapters

■ Types B, C, E, F, H and M



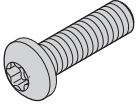
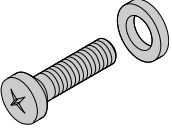
Board height	F mm	G mm
3 U	123.00	100.00
6 U	257.00	233.35

Board depth	A mm	B mm	C mm	D mm
160 mm	363	290	190	175.24
220 mm	423	350	250	235.24
280 mm	483	410	310	355.24
340 mm	543	470	370	415.24

- 1) Board guide
- 2) Measuring field
- 3) Mounting bracket with extraction aid
- 4) Test adaptor
- 5) Male connector
- 6) Female connector

## Test adapters

### Panhead screws

	Description	Application	Material	Dimension	Qty/PU	Part no.
 <small>aza45940</small>	Torx panhead screw	For backplane fixing	St, nickel-plated	M2.5 x 12	100	<b>24560-161</b>
		For backplane fixing	St, nickel-plated	M2.5 x 14	100	<b>24560-162</b>
		For backplane fixing	St, nickel-plated	M2.5 x 16	100	<b>24560-163</b>
 <small>06702051</small>	Screw + securing washer	For backplane fixing	St, nickel-plated	M2.5 x 12	100	<b>21100-777</b>

## Test adapters – ServicePLUS



### configuration

Equipped to customer specification

**Simple. Fast. For the product you want.**

- Appropriate solutions from our standard range or individual solutions
- Equipping options: e.g.: do not equip unused connectors, VME with ADC or MDC, set CPCI to 3.3 V, ...
- Online configuration enquiry:  
[www.schroff.co.uk/configuration](http://www.schroff.co.uk/configuration)



### modification

Small design alterations to off-the-shelf products

**Small changes. Large impact.**

- Minor modifications to our standard-backplane designs, customized modifications
- Conformal coating



### solution

System integration and custom developments

**Simple. Fast. From one source.**

- Development, simulation and design to customer specification; Production of prototypes, pilot series and production series
- Simulation and testing



### academy

Knowledge transfer and partnership

**Knowledge. Sharing. Partnerships.**

- Test reports, user reports, user manuals for download



**Test adapters – ServicePLUS**

## Appendix – Order notes

### Packaging units

A packaging unit (PU) - e.g. carton, bag - contains the stated quantity. If you order the quantity 1, you will automatically receive the quantity defined as PU.

Example: EMC textile gasket  
See page 5.22  
Part number 21101-853

Quantity (per part number): 10 pieces

Order quantity: . . . . . Delivery quantity:

1 . . . . .	10 pieces
2 . . . . .	20 pieces
3 . . . . .	30 pieces

### Price list

Our price list is available by e-mail from your customer consultant. Please find all contact details at [www.schroff.biz/contact](http://www.schroff.biz/contact).

### Always up-to-date

Please visit our website [www.schroff.biz](http://www.schroff.biz) where we continuously inform about news and technical changes.

### Quick links

**Catalogue request:** [www.schroff.biz/catalogues](http://www.schroff.biz/catalogues)

**Product configurators:** [www.schroff.biz/conf](http://www.schroff.biz/conf)

**Contact details:** [www.schroff.biz/contact](http://www.schroff.biz/contact)

**Product search:** [www.schroff.biz/oneclick](http://www.schroff.biz/oneclick)

**Front Panel Express:** [www.frontpanelexpress.eu](http://www.frontpanelexpress.eu)

**VARISTAR:** [www.varistar.co.uk](http://www.varistar.co.uk)

**Railway technology:** [www.schroff.co.uk/railway](http://www.schroff.co.uk/railway)

**IT Infrastructure:** [www.schroff.co.uk/datacom](http://www.schroff.co.uk/datacom)

### Standard pack quantity (SPQ)

Please take into consideration that deliveries may be carried out in the stated SPQs (SPQ, e.g. 5 pieces, 10 pieces, 50 pieces, etc.). Differing order quantities (e.g. 2 pieces) may be changed to the next possible delivery quantity = Standard Pack Quantity (in this case 10 pieces).

Example: Front horizontal rail  
See page 5.31  
Part number 34560-228

Quantity (per part number): 1 piece  
Standard pack quantity (SPQ): 10 pieces

Order quantity: . . . . . Delivery quantity:

≤ 10 . . . . .	10 pieces
> 10 ≤ 20 . . . . .	20 pieces
> 20 ≤ 30 . . . . .	30 pieces

### Delivery times

Part numbers in bold face type are ready for despatch within 2 working days; part numbers in normal type are ready for despatch within 10 working days.

### Business relations

Schroff is exclusively operating in Business to Business (B2B). Private individuals can buy Schroff products via our sales representatives (see [www.schroff.biz/contact](http://www.schroff.biz/contact)).

### Responsible for contents and print

Schroff GmbH, Marketing Communication,  
D-75334 Straubenhardt, Germany

The data in this catalogue have been thoroughly edited and checked - in assistance with an accredited Quality Management System in accordance with EN ISO 9001:2008.

Faults and spelling mistakes, but mainly changes due to improvements and further developments of our products are subject to change. There is no possibility to claim indemnity/compensation.

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