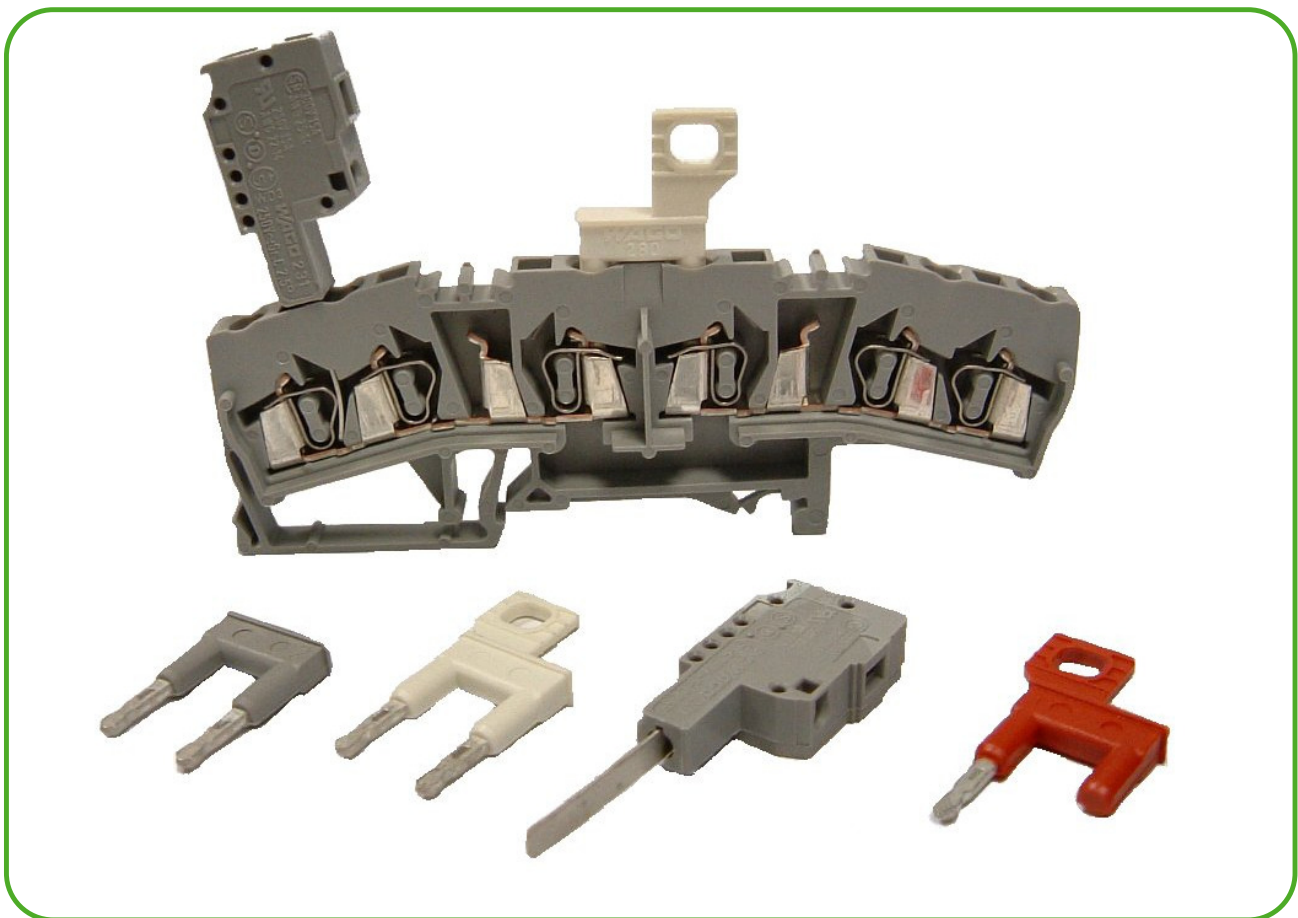


# Network Rail Approved WAGO Terminal Replacement for the 2BA Stud Terminal Block




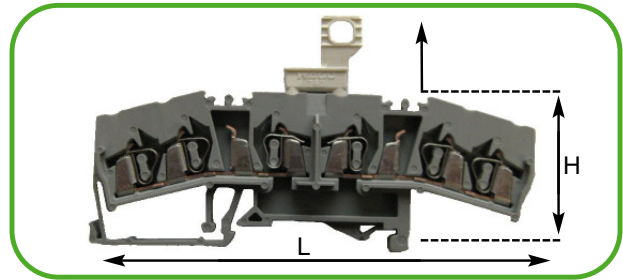
PI 04-11-12

# Product Information

**WAGO Part No. 280-675**  
**TS35 DIN rail-mounted terminal block with disconnect link facility**

800V/8kV/3, 24A  
 0.08 - 2.5mm<sup>2</sup>

 Terminal block width 5mm  
 Insulation stripping length: 8-9mm



Length	93mm
Height	28mm
Height with disconnect jumper	44mm
Width	5mm

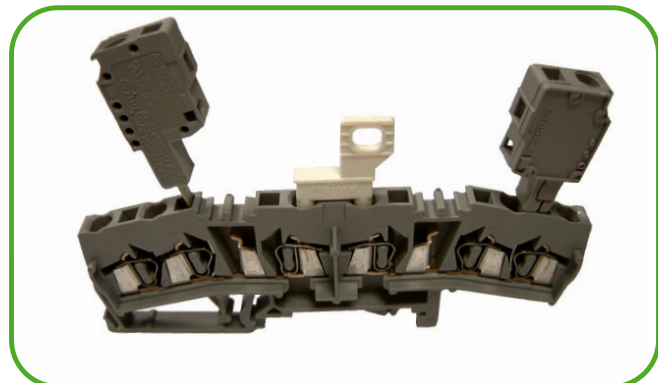
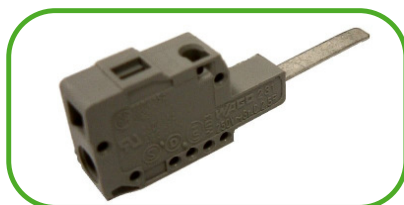









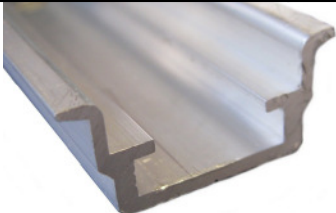


Red Insulation stop (part number 280-498) is available as an equivalent to the red dome nut and can be fitted into the jumper location **once the disconnect link has been removed**. Installation and removal of this part can be seen on the Operating Information page in Part 2.



The 280-498 is based on the existing white disconnect link. However this new part only has one leg which is used for holding the stop in place. Its purpose is solely to blank off the centre jumper locations.

The 231-126/011-000 is a test probe that can be used in the screwdriver entry point. This device is inserted in the same way as a screwdriver, by angling its entry into the terminal block. It is pushed down the back of the clamp making contact with the busbar and clamp simultaneously.

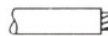


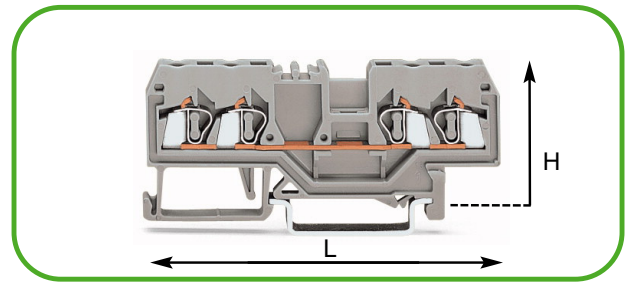
	PADS No.	Description
	<b>086/042121</b>	DIN Rail mounted terminal block with disconnect link facility.  Part No 280-675 grey
	<b>086/042124</b> <b>086/042125</b>	End and intermediate plate  Part No 280-325 - grey, 5mm thick Part No 280-333 - orange, 5mm thick
	<b>006/042123</b> <b>086/042134</b>	Disconnect Jumper / Link with tab and without  Part No 280-495 - white (left, with tab) Part No 280-492 - grey (right, without tab)
	<b>086/042126</b>	Insulation stop - for disconnect jumper point  Part No 280-498 - red
	<b>086/042126</b>	Screwless end stop for TS35 DIN rail  Part No 249-117 - 10mm wide, grey
	<b>086/042127</b>	Test Probe  Part No 231-126/011-000 - grey
	<b>086/042131</b>	WSB marker card - for marking of terminal blocks  Part No 209-666 - white card vertically marked with 1-50 (x2). Other combinations available, details on request.
	DIN Rail  Part No 210-146 - Aluminium DIN rail TS 35/15	
		Operating tools  209-130 - Insulated 210-657 - Short, blade 3x0.5mm 210-658 - Short angled, blade 3x0.5mm

# Product Information

## WAGO Part No. 280-833 TS35 DIN rail-mounted through terminal block 4-conductor

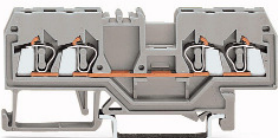




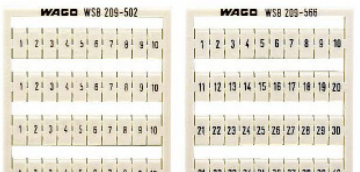
800V/8kV/3, 20A  
0.08 - 2.5mm<sup>2</sup>

 Terminal block width 5mm  
Insulation stripping length: 8-9mm



Length	75mm
Height	28mm
Width	5mm

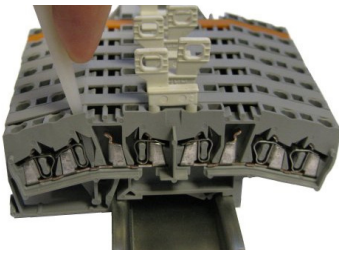
Please follow the operating information **part 1** for connecting wires to the 280-833 terminal block. Adjacent jumpers can be inserted into the terminal block by simply pushing it into the jumper slot. The jumper will click into position and be flush to the top of the terminal.

	PADS No.	Description
	<b>086/042129</b>	DIN Rail mounted terminal block 0.5 - 2.5mm <sup>2</sup> (Non-disconnectable) Part No 280-833 grey
	<b>086/042132</b>	End and intermediate plate Part No 280-835/056-000 - orange, 5mm thick
	<b>086/042126</b>	Screwless end stop for TS35 DIN rail Part No 249-117 - 10mm wide, grey
		Adjacent Jumper Part No 280-402 - grey
		Group marker carriers - can be fitted to end-stops Part No 209-112 - group marker carrier (top) Part No 209-114 - protective cover transparent (middle) Part No 209-113 - marker card for self-marking, 100 markers per sheet (bottom)
	<b>086/042131</b>	WSB marker card - for marking of terminal blocks Part No 209-666 - white card vertically marked with 1-50 (x2). Other combinations available, details on request.



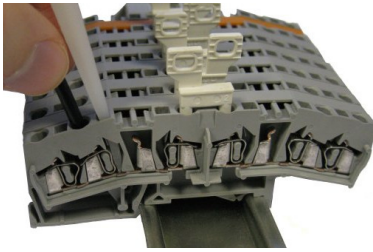
# Operating Information

## Part 1: Connecting wires using a CAGE CLAMP®



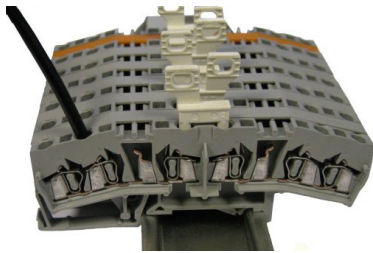
### Step 1:

Strip the cable 8-9mm using the stripping tool (206-124). Introduce the screwdriver, initially at a slightly curved angle, into the square operating slot and push down until it will go no further. You cannot damage the spring as positive 'stops' are built into the design of both the spring and terminal housing.



### Step 2:

The screwdriver blade will then remain in place, automatically holding the spring open. Introduce the prepared cable, via the rounded entry hole.



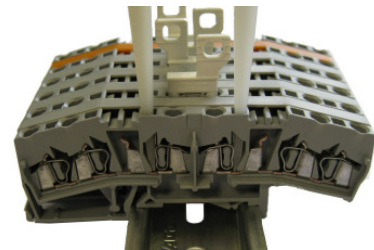
### Step 3:

The screwdriver can then be withdrawn, releasing the clamping spring onto the conductor to provide a secure connection with exactly the right level of tension.

## Part 2: Insertion of the disconnect jumper / link & insulation stop

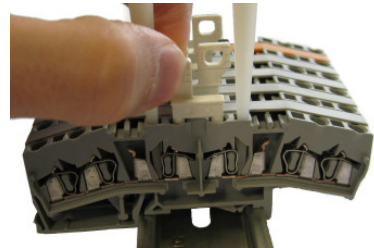
### Step 1:

Open the two central clamping springs using our 3.5 x 0.5mm flat blade operating tool, part number 210-130.



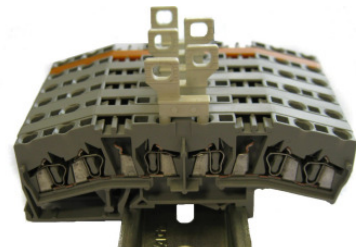
### Step 2:

Insert the disconnect jumper / link or insulation stop, part numbers 280-495 or 280-498 respectively, fully into the open clamping springs. The contact legs of the link are notched and it should be possible to feel these click into place once it is in the correct position.



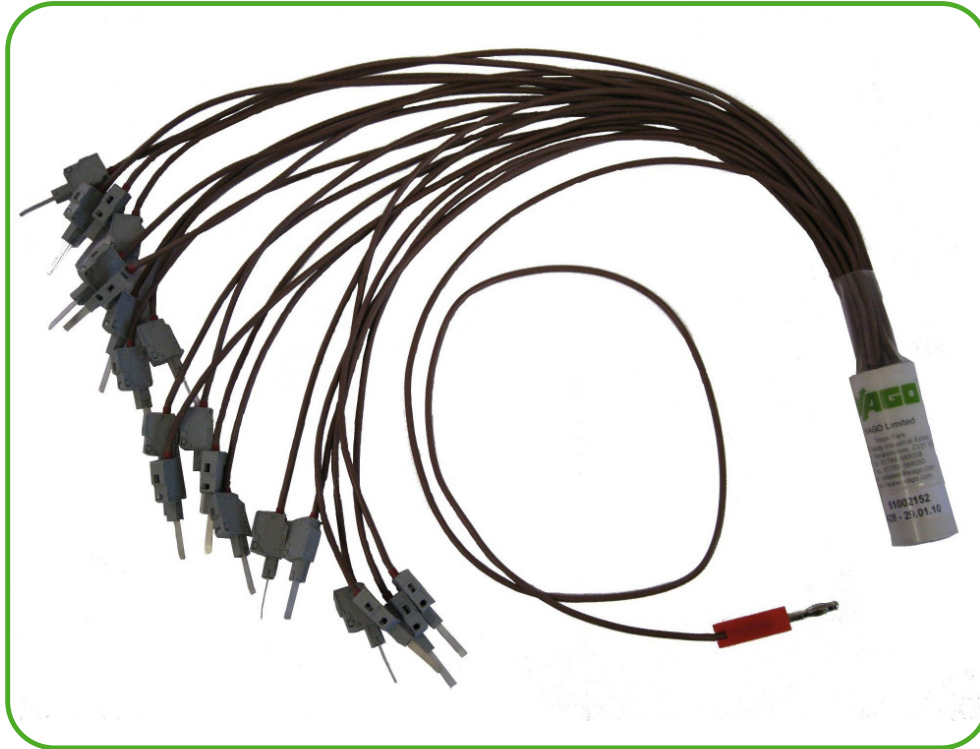
### Step 3:

Remove the operating tool to close the clamps, leaving the jumper / link firmly held in position.



# Bunch strap tester for testing of WAGO CAGE CLAMP® terminals

## Bunch Strap Tester for 20 and 24 terminal units



The WAGO bunch strap tester is specifically designed to be used with the WAGO CAGE CLAMP® terminals and can be used to Megger test up to 20 or 24 terminals at a time,

The tester is constructed from silicon insulated wire, each of the arms has a replaceable connector attached that can be placed into the square hole of the terminal, thus allowing testing without disturbing the cabling.

The Megger connection is via a 4mm stackable banana plug. The unit is supplied complete as shown above with either 20 or 24 terminal leads, each unit has unique serial number and date of manufacture.



231-126/011-000 Test Probe



51002153 Test Plug



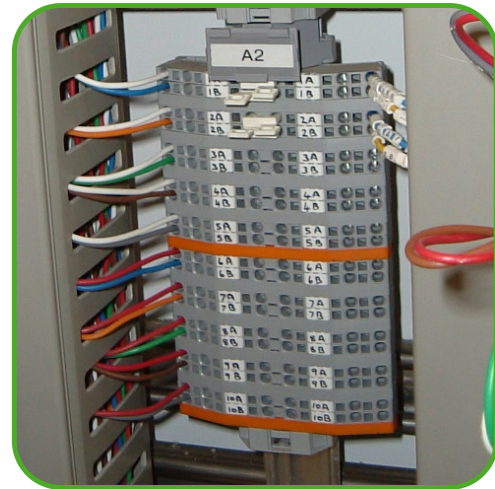
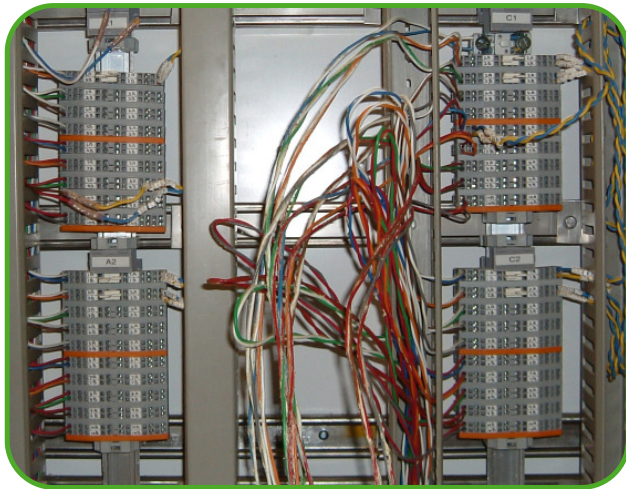
Serial number and date of manufacture

20 way strap tester	WAGO part number 51002152
24 way strap tester	WAGO part number 51002165
Other number of ways available upon request	

## Production facilities

Throughout, WAGO can offer a full service for customers including, technical information and support, AutoCAD drawings of specific custom terminal rail assemblies, quotes and lead times to full production of the rail assemblies and as well as inspection and packaging ready for delivery.

Below examples of rails assemblies by WAGO.



Above, 280-675 terminal assemblies in a typical LOC application.



Above, 280-675 terminal assembly within a disconnection box used for signal gantries.



# RAILTRACK

Railtrack PLC (in Railway Administration)

Alan Bloom, Chris Hill, Scott Martin and Mike Rollings were appointed  
Joint Special Railway Administrators of Railtrack PLC on 7th October 2001

The Joint Special Railway Administrators act as agents of the company and without personal liability

## Certificate of Acceptance

Certificate No: PA05/271 Issue: 2 Date: 25/07/2002  
Effective date: 25/07/2002 Page 1 of 3

<b>Product:</b>	DIN Rail Mounted Terminal Blocks. (See page 2 for product configuration)
<b>Manufacturer:</b>	Wago Ltd Triton Park, Swift Valley Industrial Estate, Rugby, Warwickshire CV21 1SG

<b>General Conditions:</b>
The product identified above is accepted for use on Railtrack infrastructure within the scope of acceptance defined below.
Acceptance of any change to the accepted product is liable to a demonstration that risk arising from the change has been assessed and is negligible. <b>Corresponding change in product configuration shall be notified to Railtrack Acceptance Services.</b>
<b>Any deficiency affecting the product shall be reported in writing to Railtrack Acceptance Services.</b>

<b>Scope of Acceptance:</b>
For use as a replacement of the 2BA terminal blocks for terminating railway signalling cable conductors up to 2.5mm <sup>2</sup> CSA.

<b>Specific Conditions:</b>
An intermediate plate (Part No 280-325/333) must be used between terminal blocks.
No crimped termination is required to be fitted to multi-strand conductors.

**Signature:**



Andrew Simmons BSc, CEng, MIEE, MIRSE  
Professional Head of Signalling





Acceptance Services  
Network Rail  
Floor 5, 40 Melton Street  
London, NW1 2EE

## Certificate of Acceptance

Certificate No: PA05/00271 Issue: 5 Date: 30/04/2008  
Effective date: 30/04/2008 Page 1 of 5

<b>Product:</b>	DIN Rail Mounted Terminal Blocks
<b>Manufacturer:</b>	WAGO Ltd Triton Park, Swift Valley Industrial Estate, Rugby, Warwickshire CV21 1SG

*The product above is accepted for use on Network Rail infrastructure within the defined scope of acceptance and any specific conditions in the certificate. Failure to abide by the certificate requirements may lead to acceptance by Network Rail becoming invalid.*

### Scope of Acceptance

For use as a replacement of the 2BA terminal blocks for terminating railway signalling cable conductors up to 2.5mm<sup>2</sup> cross sectional area. Use of the DIN Rail Mounted Terminal Blocks in signal heads is prohibited.

### Specific Conditions:

Refer to the pages which follow for the detailed manufacturer/ supplier, maintenance, and general conditions of use, and the product configuration.

### Authorised by:



IP Eur. Ing. Steve Hailes MA, CEng, MIET, MIRSE  
Head of Signal Engineering



## Certificate of Acceptance

Certificate No: PA05/00271

Issue: 5

Date: 30/04/2008

Effective date: 30/04/2008

Page 2 of 5

### **SPECIFIC CONDITIONS**

#### **MANUFACTURER**

**WAGO Ltd shall:**

- Ensure that the latest relevant standards/ drawings are available and worked to, and that the product is compliant.
- Notify Network Rail Acceptance Services:
  - within 48 hours, of any deficiencies affecting the product quality, functionality and safety integrity of the product (including corrective action undertaken or proposed).
  - of any intended change to the accepted product. Changes include:
    - a) a change to the product configuration (to the actual product or its application);
    - b) a variation to or addition of manufacturing locations or processes; and
    - c) a change in the name or ownership of the manufacturing company.
- Provide operating and maintenance manuals to purchasers/users of the product.

#### **USER CLAUSES**

##### **GENERAL**

- Use of the DIN Rail Mounted Terminal Blocks in signal heads is prohibited.
- A 5mm intermediate plate must be used between terminal blocks. No crimped terminator is required to be fitted to multi-strand conductors.
- Users of the product are responsible for ensuring compliance with the certificate conditions. If a condition is not understood guidance must be sought from Network Rail Acceptance Services.
- Each party in the Network Rail supply chain procuring and receiving the product is responsible for ensuring that it is fit for purpose and that the application of use complies with the scope of acceptance. Any product defect should be taken up immediately with the supplier. If the defect is a design or manufacturing fault likely to affect performance and/or the safe operation of the railway this shall be reported in writing to Network Rail Acceptance Services.
- Anyone becoming aware of a change to the product configuration (to the actual product or its application); and a variation to or addition of manufacturing locations or processes, should inform Network Rail Acceptance Services in writing.
- All staff required to use the product shall be suitably trained and qualified as competent to use it.
- Equipment shall be maintained in accordance with the manufacturer's recommendations.

Issued by Acceptance Services, Engineering Directorate, Network Rail, 40 Melton Street, London NW1 2EE



## Certificate of Acceptance

Certificate No: PA05/00271  
Effective date: 30/04/2008

Issue: 5 Date: 30/04/2008  
Page 3 of 5

### **PRODUCT CONFIGURATION**

Part No.	Description	PADS No.
<b>Disconnectable Terminal &amp; Parts</b>		
280-675	Disconnectable terminal block (0.5mm <sup>2</sup> to 2.5mm <sup>2</sup> )	086/042121
280-492	Non-tab jumper link (grey)	086/042134
280-495	Disconnect jumper link with tab	086/042122
280-498	Insulation stop (red dome nut equivalent).	086/042123
280-325	Grey 5.0mm end and intermediate plate	086/042124
280-333	5.0mm end and intermediate plate for disconnectable terminal (Orange)	086/042125
<b>Non-Disconnectable Terminal &amp; Parts</b>		
280-833	Non-disconnectable terminal block (0.5mm <sup>2</sup> to 2.5mm <sup>2</sup> )	086/042129
280-835/056-000	5.0mm end and intermediate plate for non-disconnectable terminal (Grey)	086/042132
<b>Universal Accessories</b>		
249-117	End Stop	086/042126
231-126/011-000	Test Probe	086/042127
209-566	Marker card (white) numbered 1-50	086/042131
210-258	Short-angled screwdriver (3.5mm x 0.5mm)	086/042133
51002152	20 way bunch strap tester for use with Wago terminals	086/042135
51002165	24 way bunch strap tester for use with Wago terminals	086/042136

Issued by Acceptance Services, Engineering Directorate, Network Rail, 40 Melton Street, London NW1 2EE





## Certificate of Acceptance

Certificate No: PA05/00271

Issue: 5

Date: 30/04/2008

Effective date: 30/04/2008

Page 5 of 5

### DISTRIBUTION

#### Manufacturer

Ian Woodcock  
WAGO Ltd  
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Rugby  
Warwickshire CV21 1SG

[ian.woodcock@wago.com](mailto:ian.woodcock@wago.com)

#### Sponsor

N/A

---

### For PADS records

PADS Input Agent  
Unipart Rail  
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Cheshire  
CW2 6EH  
[alan.marshall@uniparttrail.com](mailto:alan.marshall@uniparttrail.com)

DHL Ltd,  
Blackpole Trading Estate  
Blackpole  
Worcester  
WR3 8SG  
[inventory@dhl.com](mailto:inventory@dhl.com)

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Derwent House  
Rtc Business Park  
London Road, Derby  
DE24 8UP  
[mcoley@serco.railtest.co.uk](mailto:mcoley@serco.railtest.co.uk)

### For Information/briefing

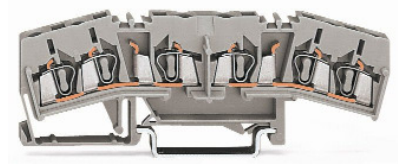
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[chris.knight3@networkrail.co.uk](mailto:chris.knight3@networkrail.co.uk)

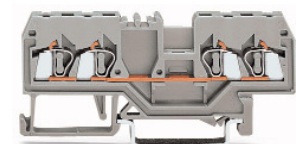


**Notes**

**Network Rail**



WAGO



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