Rittal – The System.

Faster – better – everywhere.

▶ Rittal Automation Systems – Automate your panel building and switchgear manufacturing

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Rittal – The System.

Faster – better – everywhere.

Wire Processing
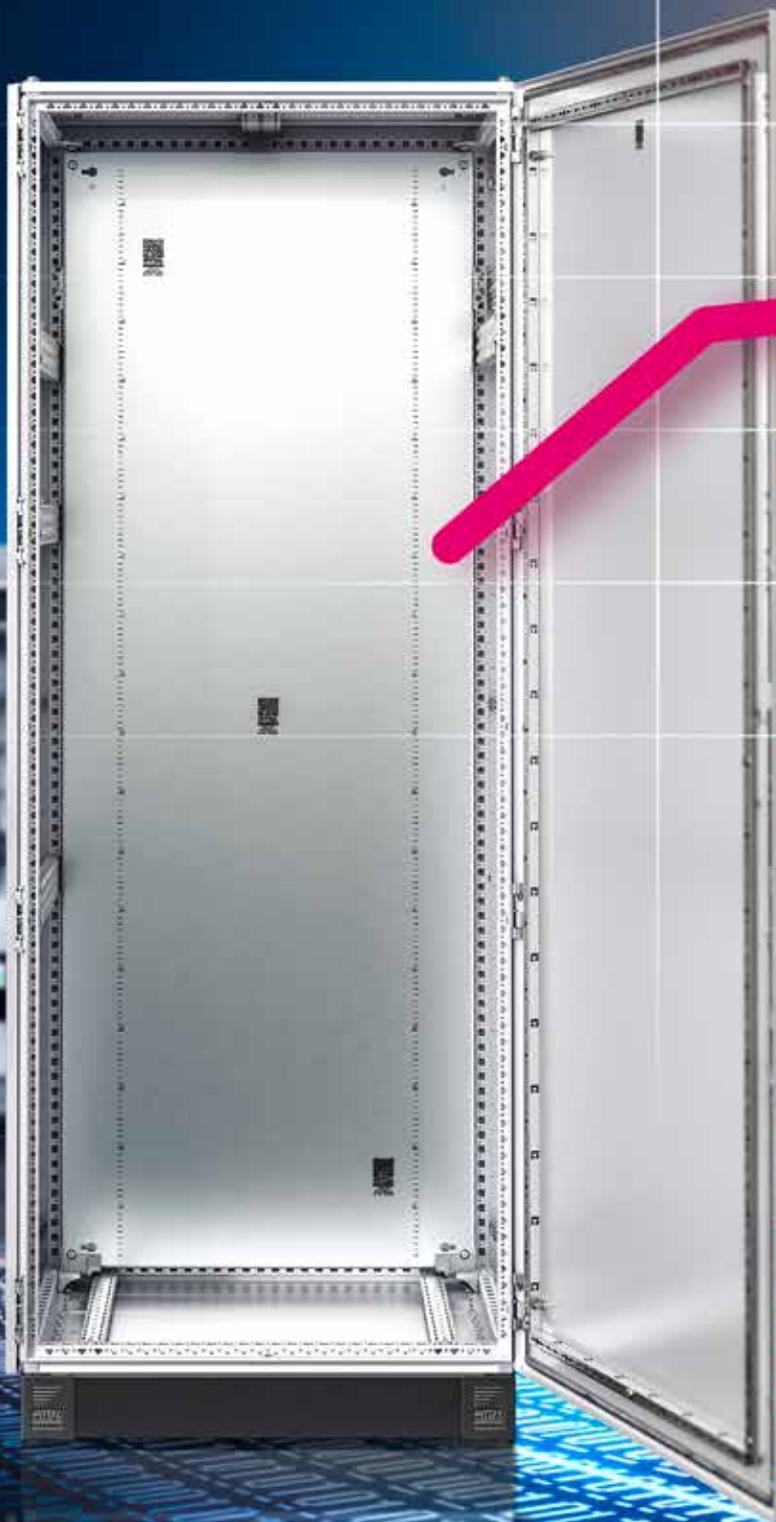
Increasing efficiency through automation

Rittal can supply all your machines and devices – The Rittal Automation Systems division can supply everything you need to make enclosure assembly easier, faster, more accurate and more repeatable through automation. This allows you to link all work operations together into one highly efficient, digitally seamless, automated process. All machines and devices required for this purpose, including manual handling aids and a wide selection of hand tools, are available from a single source and can be ordered directly from Rittal.

Rittal Automation Systems

Wire Processing

IT INFRASTRUCTURE   SOFTWARE & SERVICES

RITTAL

Improve the workflow in every production phase

With Rittal Automation Systems – Engineering-generated digital data (e.g. from Eplan tools) allows the seamless automation of production processes. This is based on the virtual prototype. It carries all the relevant information, and in collaboration with the product spectrum from Rittal Automation Systems, ensures maximum possible efficiency at every point of the panel-building workflow.
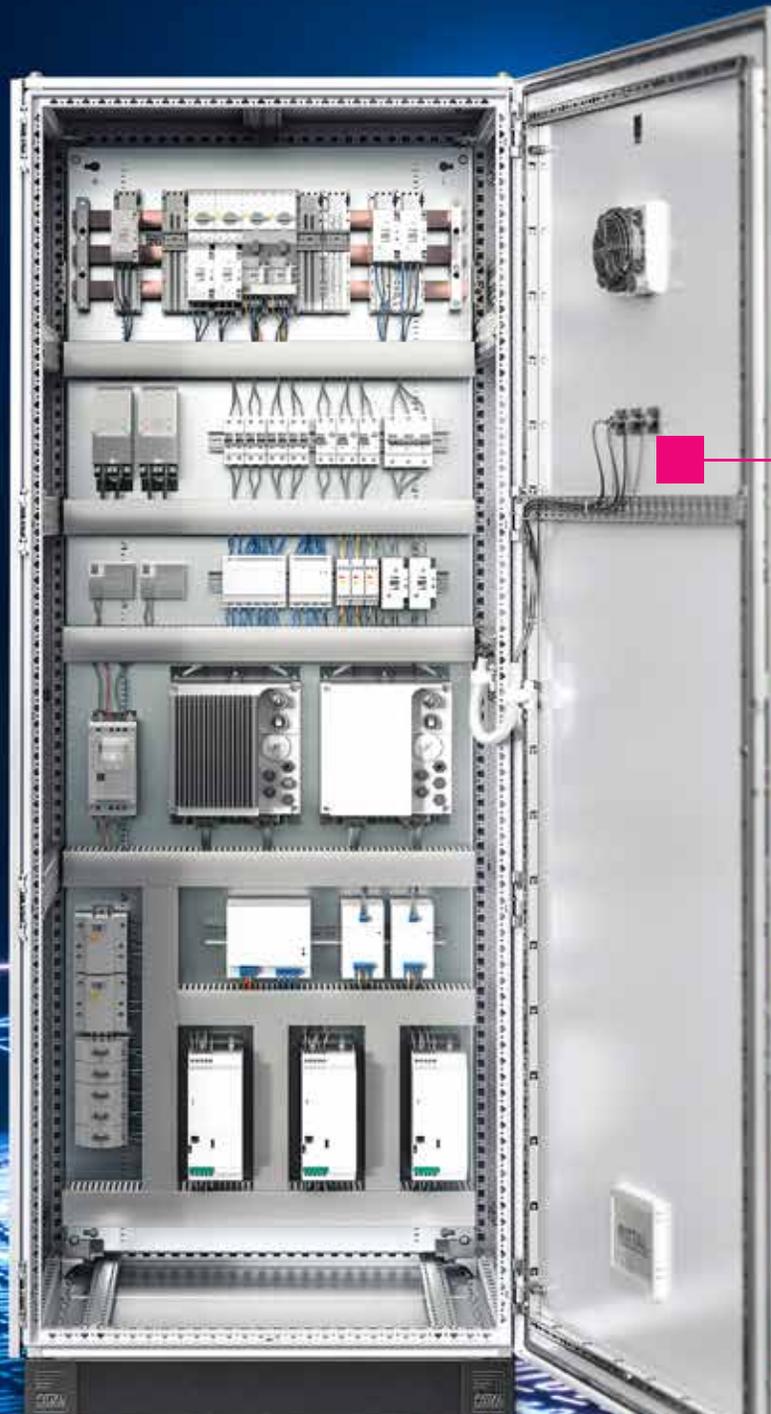
ENCLOSURES   **POWER DISTRIBUTION**   **CLIMATE CONTROL**

Automate machining
Fully automated milling or laser machining, plus machining of cable ducts and busbars

Make component mounting more flexible
Automatic manufacturing and component mounting of terminal strips

Organize wire processing
Professional, rational solutions for wire machining and processing

Streamline wiring
To complete the process chain, Rittal Automation Systems are involved in developing pioneering wiring solutions, right through to full automation

Simplify handling
Ergonomic, efficient handling systems for transport and lifting operations

Perfecting the hand tool
High-quality hand tools for professional use in industry and trade

IT INFRASTRUCTURE   SOFTWARE & SERVICES

RITTAL

Increase productivity at every step

With seamless optimization of all process stages – In panel building and switchgear manufacturing, efficiency relies on the quality of productivity, and on all automated and manual work stages. We achieve the ideal workflow with the aid of digitalization, from engineering right through to production.

Machining
- Significant time saving with the milling center Perforex BC
- High level of precision with the laser center Perforex LC
- Less wastage with the cutting center Secarex AC 18
- Efficient working with the copper busbar workstations CW 120-S and CS 120-M

Assembly
- Rapid throughput with the terminal block assembly center
- Athex TC 80 CS

Wire processing and wiring
- Project-controlled cutting with the length-cutting machines C8+
- Quick insulation stripping with the stripping machines S22
- User-friendly wire processing with the crimping machines L8, R8, R8 E, RC
- Faster processes, utilizing fully automated wire processing with the Wire Terminal WT

Handling
- Fatigue-free, ergonomic working with Rittal assembly frames
- Safe transportation of enclosure panels with the storage and transport trolley LT 1000
- Flexible work surface with the functional trolley for assembly and maintenance

Hand tools
- Covers all manual processes in the workshop with high-quality hand tools

Wire Terminal WT
fully automated
wire processing machine
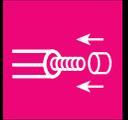
The compact Wire Terminal 24 or 36 fully automated wire processing machine ensures efficient, cost-effective wire processing. Up to 36 different wires in diameters ranging from 0.5 mm² to 2.5 mm² (AWG 20 - 14) may be processed fully automatically without retooling. The optional print system prints the wires in black or white type, then transfers them to downstream process stages using a controlled ordering system capable of accommodating up to 1300 processed wires. All production data can be read and processed via suitable interfaces. Manual logging of wire lists is also supported.

■ Integral touch display
 for data processing

■ Label printer for wire
 magazine identification

Wire storage
The modular, space-saving wire store and wire routing system for the Wire Terminal. Six wire drums are stored on each of the two levels in a space-saving design. Depending on the number of wires used, the fully automatic wire processing machine may be fitted with additional wire stores (central, left, right), each with space for 12 wire containers (see table on page 55 for selection).
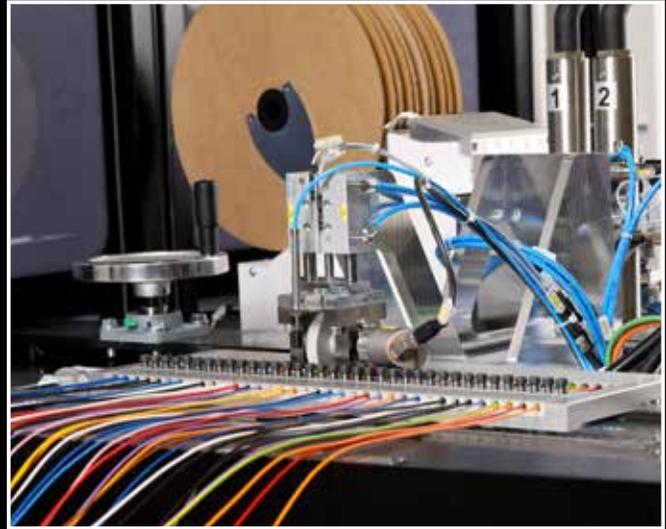
24 or 36 wires
The Wire Terminal may be fitted with wire guides for 24 or 36 wires. Wires are fed in using a 24-/36-wire feed magazine which is horizontally adjustable and controlled via a servo-motor NC axis. Wires are clamped by a spring-assisted clamp which is pneumatically released during the wire feed process.

Wire labelling and processing
To ensure optimum positioning of the origin/destination on the wires, the Wire Terminal may be fitted with black, white or both marking systems. Multiple insulation stripping and crimping machines may also be integrated using an optional lift.

Selection of wire magazines
The processed wires are sorted into their individual orders by the removal handling system in the removal unit, to which end up to 13 wire rails are inserted in the removal magazine. A servomotor-controlled linear guide monitored by a limit switch positions the removal magazine horizontally on the rail.

Wire Terminal WT fully automated wire processing machine

The new, compact Wire Terminal WT fully automated wire processing machines produce up to 36 different wires in cross-sections ranging from 0.5 mm² to 2.5 mm² (AWG 20 - 14) automatically, with zero manual intervention.

Design:
– For fully automatic processing of wire lists for wire assembly
– Optional management of 24 or 36 wires
– Standard wire stores are selected depending on the number of wires
– When using multiple crimping machines for different diameters, the machine may be fitted with a lift option
– Without a lift option, the stripping and crimping machine RC is the ideal choice
– The machine configuration includes a 13-way storage system with wire magazines

Benefits:
– Faster processes due to fully automated wire processing with individual wire printing and order-picking
– Fully interlinked, from the E-CAD tool through to the production processes
– Increases wire assembly production process to 8 times faster
– Automated design ensures a repeatable, quality product
– Assembled wires from the ordering system can be processed in the subsequent enclosure wiring process stage with the "Smart Wiring" tool from Eplan

Supply includes:
– Machine frame and housing
– Integral display
– Wire clamp system
– Wire cutting module
– Locator for wire labelling unit
– Turntable and wire routing
– 26 wire magazines as per requirements
– Label printer for wire magazine identification

Machinable material:
– Fine-wire copper cables to DIN VDE 0295 Category 5

Note:
– Please contact your Rittal representative for further information.

We reserve the right to make technical modifications · Wire Processing

Wire Terminal WT fully automated wire processing machine

Model No.	Packs of	4051.024	4051.036
Machine dimensions H x W x D mm (H x W x D in)		2220 x 1950 x 1800 (87.4 x 76.8 x 70.9)	2220 x 1950 x 1800 (87.4 x 76.8 x 70.9)
Footprint size including 2 wire stores H x W x D mm (H x W x D in)		2250 x 1950 x 4000 (88.6 x 76.8 x 157.5)	2250 x 3610 x 4000 (88.6 x 142.1 x 157.5)
Footprint size including 3 wire stores H x W x D mm (H x W x D in)		2250 x 3610 x 4000 (88.6 x 142.1 x 157.5)	2250 x 3610 x 4000 (88.6 x 142.1 x 157.5)
Wires per hour approx.		240	240
Compressed air connection (bar)		6	6
Power consumption (kW approx.)		1	1
Electrical connection (V, ~, Hz)		400, 3~, 50	400, 3~, 50
Frequency (Hz)		50	50
Control voltage V (DC)		24	24
Wire Terminal weight kg (lbs)		1100 (2425.0)	1100 (2425.0)
Weight per wire store, unloaded kg (lbs)		130 (286.6)	130 (286.6)
Eplan interfaces		Pro Panel Smart Wiring	Pro Panel Smart Wiring
Safety devices		The machine interior is fully encapsulated. The machine zone allows access from 4 sides, monitored via contactless safety limit switches on the bifold doors.	
Also required			
Crimping machine R8-I	1 pc(s).	4051.021	4051.021
Crimping machine RC-I	1 pc(s).	4051.020	4051.020
Wire ferrules	1 pc(s).	see pages 18-23	see pages 18-23
Wire store for WT, central unit	1 pc(s).	4051.026	4051.026
Wire store for WT, additional module, left	1 pc(s).	4051.027	4051.027
Wire store for WT, additional module, right	1 pc(s).	4051.028	4051.028
Machine option			
Lift option	1 pc(s).	4051.025	4051.025
Printer option, black	1 pc(s).	4051.029	4051.029
Printer option, white	1 pc(s).	4051.030	4051.030
Wire rail magazine 0.5 mm²	1 pc(s).	4051.040	4051.040
Wire rail magazine 0.75 mm²	1 pc(s).	4051.041	4051.041
Wire rail magazine 1.0 mm²	1 pc(s).	4051.042	4051.042
Wire rail magazine 1.5 mm²	1 pc(s).	4051.043	4051.043
Wire rail magazine 2.5 mm²	1 pc(s).	4051.044	4051.044

Wire end ferrules
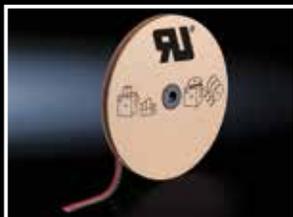
Wire end ferrule

With plastic collar.

Technical specifications
– Heat resistant to 105ºC (221º F)

Material:
– E-Cu, galvanic tin-plated
– Plastic collar: Polypropylene

Note:
– UL-certified in conjunction with the relevant tools,
  such as crimping machines.

Standards:
– AEH DIN 46228

Approvals
– Available on the Internet
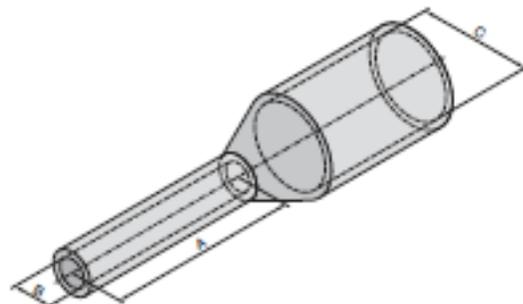
A: Length
B: Cross-section
C: Internal diameter

For cross-section 0.14 - 0.34 mm²

Model No.	4050.752	4050.754	4050.757
Packs of	500 pc(s).	500 pc(s).	500 pc(s).
Delivery form	Loose	Loose	Loose
For	Manual wire processing	Manual wire processing	Manual wire processing
For cross-section mm²	0.14	0.25	0.34
AWG	26	24	22
Length mm	8	8	8
Internal diameter mm	1.5	1.8	2
Color	Grey	Light blue	Turquoise
DIN color code	–	–	–
Rittal color code	■	■	■
Multiple color codes supported	–	–	–

We reserve the right to make technical modifications   Wire Processing

For cross-section 0.5 mm²

Model No.	4050.730	4050.737	4050.746	4050.760	4050.761	4051.597	4051.598
Packs of	500 pc(s).	1000 pc(s).	500 pc(s).	500 pc(s).	500 pc(s).	5000 pc(s).	5000 pc(s).
Delivery form	Loose	Loose (10 packs of 100)	Taped	Loose	Loose	Taped	Taped
For	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine RC
For cross-section mm²	0.5	0.5	0.5	0.5	0.5	0.5	0.5
AWG	20	20	20	20	20	20	20
Length mm	8	12	8	8	10	8	10
Internal diameter mm	2.6	2.6	2.6	2.6	2.6	2.6	2.6
Color	White	White	White	Orange	Orange	Orange	Orange
DIN color code	■	■	■	–	–	–	–
Rittal color code	–	–	–	■	■	■	■
Multiple color codes supported	–	–	–	–	–	–	–

For cross-section 0.5 mm²

Model No.	4051.638	4051.695	4050.742	4051.536	4051.540	4051.544	4051.548
Packs of	1000 pc(s).	5000 pc(s).	500 pc(s).	4000 pc(s).	4000 pc(s).	4000 pc(s).	4000 pc(s).
Delivery form	Loose (10 packs of 100)	Taped	Loose	Taped	Taped	Taped	Taped
For	Manual wire processing	Crimping machine RC	Crimping machine L8 Manual wire processing	Crimping machine RC	Crimping machine RC Crimping machine R8	Crimping machine RC	Crimping machine RC Crimping machine R8
For cross-section mm²	0.5	0.5	0.5	0.5	0.5	0.5	0.5
AWG	20	20	20	20	20	20	20
Length mm	10	10	8	10	8	10	8
Internal diameter mm	2.6	2.6	2.9	2.9	2.9	2.9	2.9
Color	White	White	White	Orange	Orange	White	White
DIN color code	■	■	■	–	–	■	■
Rittal color code	–	–	–	■	■	–	–
Multiple color codes supported	–	–	–	■	■	■	■

Wire end ferrules

For cross-section 0.75 mm²

Model No.	4050.731	4050.738	4050.747	4050.764	4050.766	4051.599	4051.600
Packs of	500 pc(s).	1000 pc(s).	5000 pc(s).	500 pc(s).	500 pc(s).	5000 pc(s).	5000 pc(s).
Delivery form	Loose	Loose (10 packs of 100)	Taped	Loose	Loose	Taped	Taped
For	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine RC
For cross-section mm²	0.75	0.75	0.75	0.75	0.75	0.75	0.75
AWG	18	18	18	18	18	18	18
Length mm	8	12	8	8	10	8	10
Internal diameter mm	2.8	2.8	2.8	2.8	2.8	2.8	2.8
Color	Grey	Grey	Grey	White	White	White	White
DIN color code	■	■	■	–	–	–	–
Rittal color code	–	–	–	■	■	■	■
Multiple color codes supported	–	–	–	–	–	–	–

For cross-section 0.75 mm²

Model No.	4051.641	4051.696	4050.743	4051.537	4051.541	4051.545	4051.549
Packs of	1000 pc(s).	5000 pc(s).	500 pc(s).	4000 pc(s).	4000 pc(s).	4000 pc(s).	4000 pc(s).
Delivery form	Loose (10 packs of 100)	Taped	Loose	Taped	Taped	Taped	Taped
For	Manual wire processing	Crimping machine RC	Crimping machine L8 Manual wire processing	Crimping machine RC	Crimping machine RC Crimping machine R8	Crimping machine RC	Crimping machine RC Crimping machine R8
For cross-section mm²	0.75	0.75	0.75	0.75	0.75	0.75	0.75
AWG	18	18	18	18	18	18	18
Length mm	10	10	8	10	8	10	8
Internal diameter mm	2.8	2.8	3.4	3.4	3.4	3.4	3.4
Color	Grey	Grey	Grey	White	White	Grey	Grey
DIN color code	■	■	■	–	–	■	■
Rittal color code	–	–	–	■	■	–	–
Multiple color codes supported	–	–	–	■	■	■	■

For cross-section 1 mm²

Model No.	4050.732	4050.739	4050.748	4050.769	4050.770	4051.601	4051.602
Packs of	500 pc(s).	1000 pc(s).	5000 pc(s).	500 pc(s).	500 pc(s).	5000 pc(s).	5000 pc(s).
Delivery form	Loose	Loose (10 packs of 100)	Taped	Loose	Loose	Taped	Taped
For	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine RC
For cross-section mm²	1	1	1	1	1	1	1
AWG	18	18	18	18	18	18	18
Length mm	8	12	8	8	10	8	10
Internal diameter mm	3	3	3	3	3	3	3
Color	Red	Red	Red	Yellow	Yellow	Yellow	Yellow
DIN color code	■	■	■	–	–	–	–
Rittal color code	–	–	–	■	■	■	■
Multiple color codes supported	–	–	–	–	–	–	–

For cross-section 1 mm²

Model No.	4051.644	4051.697	4050.744	4051.538	4051.542	4051.546	4051.550
Packs of	1000 pc(s).	5000 pc(s).	500 pc(s).	4000 pc(s).	4000 pc(s).	4000 pc(s).	4000 pc(s).
Delivery form	Loose (10 packs of 100)	Taped	Loose	Taped	Taped	Taped	Taped
For	Manual wire processing	Crimping machine RC	Crimping machine L8 Manual wire processing	Crimping machine RC	Crimping machine RC Crimping machine R8	Crimping machine RC	Crimping machine RC Crimping machine R8
For cross-section mm²	1	1	1	1	1	1	1
AWG	18	18	18	18	18	18	18
Length mm	10	10	8	10	8	10	8
Internal diameter mm	3	3	3.5	3.5	3.5	3.5	3.5
Color	Red	Red	Red	Yellow	Yellow	Red	Red
DIN color code	■	■	■	–	–	■	■
Rittal color code	–	–	–	■	■	–	–
Multiple color codes supported	–	–	–	■	■	■	■

Wire end ferrules

For cross-section 1.5 mm²

Model No.	4050.733	4050.740	4050.749	4050.773	4050.774	4051.603	4051.604
Packs of	500 pc(s).	1000 pc(s).	5000 pc(s).	500 pc(s).	500 pc(s).	5000 pc(s).	5000 pc(s).
Delivery form	Loose	Loose (10 packs of 100)	Taped	Loose	Loose	Taped	Taped
For	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Crimping machine RC
For cross-section mm²	1.5	1.5	1.5	1.5	1.5	1.5	1.5
AWG	16	16	16	16	16	16	16
Length mm	8	12	8	8	10	8	10
Internal diameter mm	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Color	Black	Black	Black	Red	Red	Red	Red
DIN color code	■	■	■	–	–	–	–
Rittal color code	–	–	–	■	■	■	■
Multiple color codes supported	–	–	–	–	–	–	–

For cross-section 1.5 mm²

Model No.	4051.647	4051.698	4050.745	4051.539	4051.543	4051.547	4051.551
Packs of	500 pc(s).	1000 pc(s).	5000 pc(s).	500 pc(s).	500 pc(s).	5000 pc(s).	5000 pc(s).
Delivery form	Loose (10 packs of 100)	Taped	Loose	Taped	Taped	Taped	Taped
For	Manual wire processing	Crimping machine RC	Crimping machine L8 Manual wire processing	Crimping machine RC	Crimping machine RC Crimping machine R8	Crimping machine RC	Crimping machine RC Crimping machine R8
For cross-section mm²	1.5	1.5	1.5	1.5	1.5	1.5	1.5
AWG	16	16	16	16	16	16	16
Length mm	10	10	8	10	8	10	8
Internal diameter mm	3.5	3.5	4	4	4	4	4
Color	Black	Black	Black	Red	Red	Black	Black
DIN color code	■	■	■	–	–	■	■
Rittal color code	–	–	–	■	■	–	–
Multiple color codes supported	–	–	–	■	■	■	■

We reserve the right to make technical modifications

Wire Processing

For cross-section 2.5 mm²

Model No.	4050.734	4050.741	4050.750	4050.779	4051.525
Packs of	500 pc(s).	1000 pc(s).	3000 pc(s).	500 pc(s).	1000 pc(s).
Delivery form	Loose	Loose (10 packs of 100)	Taped	Loose	Loose (10 packs of 100)
For	Crimping machine L8 Manual wire processing	Manual wire processing	Crimping machine RC Crimping machine R8 Crimping machine R8 E	Manual wire processing	Manual wire processing
For cross-section mm²	2.5	2.5	2.5	2.5	2.5
AWG	14	14	14	14	14
Length mm	8	12	8	10	10
Internal diameter mm	4.2	4.2	4.2	4.2	4.2
Color	Blue	Blue	Blue	Blue	Blue
DIN color code	■	■	■	–	■
Rittal color code	■	–	■	■	–
Multiple color codes supported	–	–	–	–	–

For cross-section 2.5 - 6 mm²

Model No.	4051.605	4050.735	4050.782	4050.783	4050.736	4050.785
Packs of	3000 pc(s).	500 pc(s).	500 pc(s).	500 pc(s).	100 pc(s).	100 pc(s).
Delivery form	Taped	Loose	Loose	Loose	Loose	Loose
For	Crimping machine RC	Manual wire processing	Manual wire processing	Manual wire processing	Manual wire processing	Manual wire processing
For cross-section mm²	2.5	4	4	4	6	6
AWG	14	12	12	12	10	10
Length mm	10	10	8	12	12	12
Internal diameter mm	4.2	4.8.2	4.8	4.8	6.3	6.3
Color	Blue	Grey	Grey	Grey	Yellow	Black
DIN color code	■	–	–	■	■	–
Rittal color code	■	■	■	–	–	■
Multiple color codes supported	–	–	–	–		–

Notes

We reserve the right to make technical modifications   Wire Processing

Notes

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Rittal – The System.

Faster – better – worldwide.

- Enclosures
- Power Distribution
- Climate Control
- IT Infrastructure
- Software & Services

US513 ■ 9/19

ENCLOSURES ⟩ POWER DISTRIBUTION ⟩ CLIMATE CONTROL ⟩ IT INFRASTRUCTURE ⟩ SOFTWARE & SERVICES ⟩

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