# Rittal - The System.

Faster - better - everywhere.



# **Assembly and operating instructions**



CLIMATE CONTROL

# **Foreword**

Dear Customer,

We thank you for choosing our Wire Station WS 540.

We wish you every success.

Yours

Rittal GmbH & Co. KG

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We are always happy to answer any technical questions regarding our entire range of products.

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# EN

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# 1 Scope of supply

	Quantity		Designation
	(items)	M5x40	
	8	M6x12	
	8	M6x16	Cylinder screw, hex socket
440	8	M6x22	
	6	M4x12	
WARMAN MANAGEMENT OF THE PARTY	2	M5x12	Den haad savay hay assist
Fahhtrattannannung	2	M6x16	Pan-head screw, hex socket
	4	M8x10	
	16	M8x25	
	2	M6	Stop nut
	16	M8	
	2	M5	Washer
	24	M6	
	8	M6	Spring lock washer
	2	M5x70	Stud
	2		Castors, locked
	2		Castors, unlocked
	2		Lifting columns
	2		Motor cable
	1		Control unit
	1		Control unit mains cable
	1		Control component height adjustment
	1		Control component fastening bracket

Tab. 1: Scope of supply

	Ougatit		Designation
	Quantity (items)		Designation
	1		7-way socket strip with switch
ST.	2		Socket strip angle bracket
	4		Table top angle bracket
	1		Rear panel
	1		Retainer for the cable winding
	1		Table top, pre-assembled
	1		Cover A, control unit
	1		Cover B, socket strip
	1	4 mm	
	1	5 mm	Allen key
	1	6 mm	
	1	9/8 mm	Ones and seconds:
Attended to the second	1	13/10 mm	Open-end spanner
(8)	5	200 mm	Cable tie
	1		Drawer spare key
	1		Foot part

Tab. 1: Scope of supply

# 2 Notes on documentation

### 2.1 CE label

Rittal GmbH & Co. KG confirms that the Wire Station WS 540 is compliant with the Machinery Directive 2006/42/EC and the EMC Directive 2014/30/EU. An appropriate declaration of conformity has been prepared. It can be found at the end of this document, on the Rittal Homepage or accompanies the unit as a separate document.



# 2.2 Storing the documents

These assembly operating instructions, together with all applicable documents, are integral components of the product. They must be issued to everyone who works with the machine and must always be available and on hand for the operating and maintenance personnel.

# 2.3 Symbols used in these assembly and operating instructions

The following symbols are used in this documentation:



### Danger!

Hazardous situation which will result in death or serious injury if the instructions are not followed.



### Warning!

Hazardous situation which may lead to death or serious injury if the instructions are not followed.



# Caution!

Hazardous situation which may lead to (minor) injuries if the instructions are not followed.



### Note:

Indicates situations that can lead to material damage.

■ This symbol indicates an "action point" and shows that you should perform an operation or work step.

# 2.4 Intended use

The Wire Station WS 540 serves as mobile workstation for the control cabinet engineer. Your worktop is height-adjustable in the range 810 to 1350 mm. The Wire Station WS 540 is not suitable for use by individuals with limited physical, sensory or intellectual abilities or with a lack of knowledge and/or experience, unless they are supervised by a person who is responsible for their safety or have been instructed by them on how to use the unit. Compliance with all instructions and observance of the prescribed operating conditions constitute part of the intended use.

# 3 Safety instructions

# 3.1 General safety instructions

Read the safety-related information and other notes particularly carefully.



# Warning!

Read the assembly and operating instructions to minimise the risk of injury.



# Warning!

Read all the safety instructions and notices.

Failure to observe the safety instructions and notices may cause electric shock, fire and/or severe injury. The non-observance of the listed rules can damage or destroy the product.



### Vote:

Keep all the safety instructions and notices in a safe place for future use.

Before using the Wire Station WS 540, read all the enclosed safety instructions and assembly and operating instructions carefully. Retain all the supplied documents, and ensure that all the relevant documents are forwarded together with the Wire Station WS 540.

# 3.2 Special safety instructions



### Warning!

For your own safety and to protect the Wire Station WS 540, pay particular attention to all text passages marked with this symbol.



### Warning!

Pay attention to the closing movement of mechanical parts of the machines/equipment.



# Warning!

Pay attention to moving mechanical parts.



# Warning!

There is risk of tipping with imbalanced loading of the Wire Station WS 540 caused by mounting options. The optional stabiliser must be mounted.



# Danger!

Climbing on surfaces is forbidden.



# Danger!

# Sitting on the work surface is also forbidden.

- The prescribed maximum work surface load of 60 kg must not be exceeded.
- Do not use the Wire Station WS 540 to lift persons.
- Do not allow anyone to sit or stand on the Wire Station WS 540 while in use.
- Ensure that the Wire Station WS 540 is secured against unintentional rolling when used.
- The Wire Station WS 540 was designed for flat, hard ground, and is therefore unsuitable for use on sloping, uneven ground.
- The optional stabiliser must be mounted for imbalanced loading of the Wire Station WS 540, such as caused by mounted options.
- The Wire Station WS 540 was designed for indoor use, and therefore should not be used outdoors.
- The Wire Station WS 540 is not designed for use
  - in an environment where inflammable or explosive gases or vapours are likely to occur,
  - or by children or infirm persons.
- Everyone who connects, assembles or uses the system must have access to these assembly and operating instructions. Follow the instructions. The nonobservance of the listed instructions can cause accidents or severe injury.
- Installation is not permitted if the product has visual damage.

# Prior to installation, uninstallation or troubleshooting

- Stop the DL6 drives.
- Switch off the power supply and withdraw the mains plug.
- Remove any weight from the DL6.

# Prior to commissioning

- Ensure that the system has been installed in accordance with the assembly and operating instructions.
- Ensure that the voltage at the control unit is correct before the system is connected to the power grid.
- The individual elements of the system must be connected with each other before the control unit is connected to the power grid.

# **During operation**

- Interrupt the power supply if the control unit issues strange noises or smells during operation.
- Ensure that the cables are not damaged.
- Withdraw the mains plug before the Wire Station WS 540 is moved.

# 4 Product description

The Wire Station WS 540 was developed and optimised to permit ergonomic, effective, and time-saving working. The Wire Station WS 540 has four lockable castors that allow the Wire Station WS 540 to be moved anywhere required. The height-adjustable work surface of the Wire Station WS 540 allows it to be adjusted individually to your work situation.

The wide range of options is an additional advantage. We developed them so you can extend the Wire Station WS 540 in accordance with your individual needs and requirements. All possible options are listed in Section "9".

# 4.1 DESKLINE® DL6 system

Each DESKLINE® DL6 drive is equipped with a motor. The software in the CBD6 ensures parallel running and memory function, even for unbalanced loading of the table. This software also includes the Soft Start/Stop function that ensures smooth starting and braking of the table.

# 4.2 Use of the DESKLINE® DL6 system

Irrespective of the weight, the switch-on duration of  $10\% \sim 6$  minutes/hour or max. 2 minutes for continuous operation specified on the data sheet must **not** be exceeded, because this can cause overheating of the motor, brake or spindle nut. Exceeding the switch-on duration can significantly reduce the service life of the system.

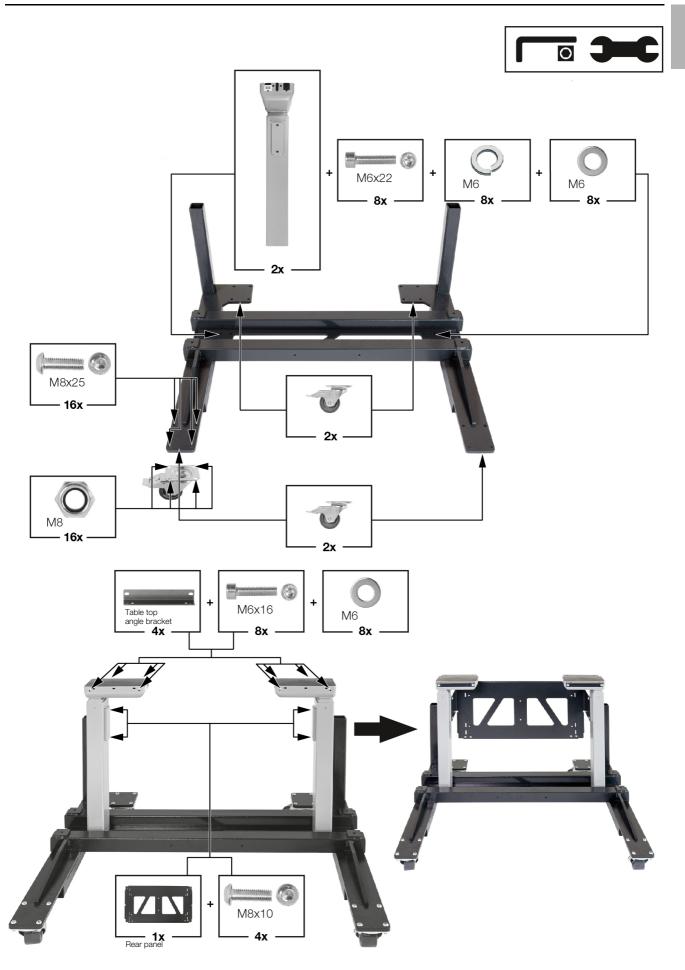
# 4.3 PIEZO™ function description

To provide optimised protection against jamming and blocking the work surface, LINAK has developed DL columns with integrated PIEZO sensor. This option minimises the risk of damage on a table caused by an obstruction jamming or blocking in the rising or lowering direction. For example, during downward travel on a stool or container or during upward travel against a windowsill. The system improves personal safety to some extent. It does not, however, satisfy the regulations regarding personal safety, i.e. personal protective equipment must also be worn.

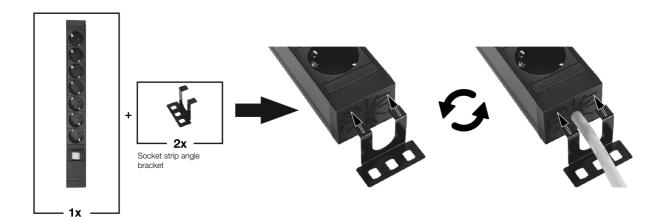
# 5 Assembly and commissioning

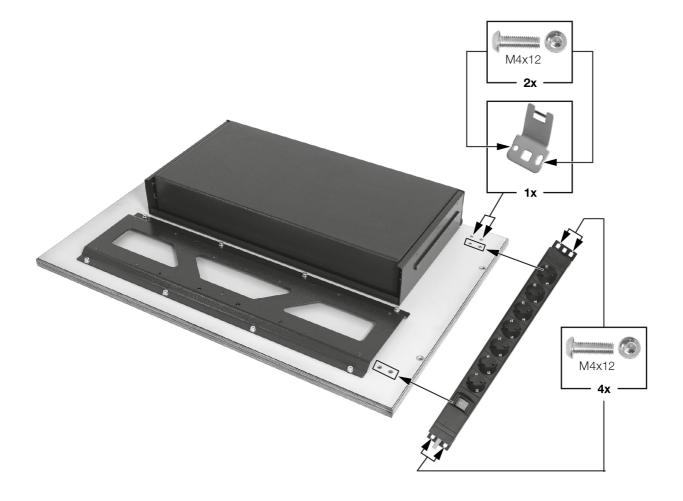
# 5.1 Assembly

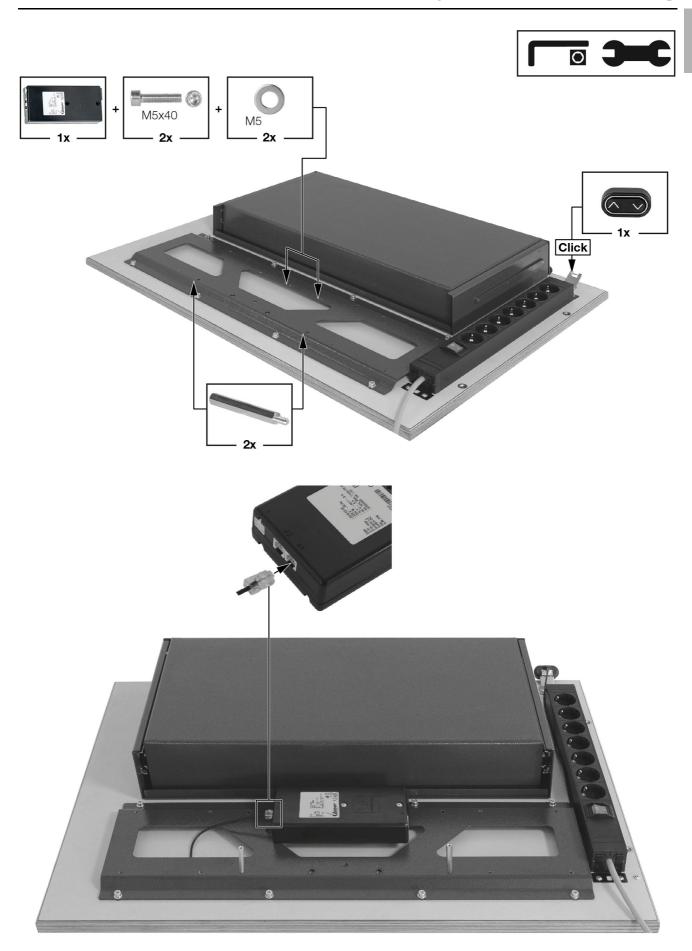
The following schematics show the assembling of the Wire Station WS 540.



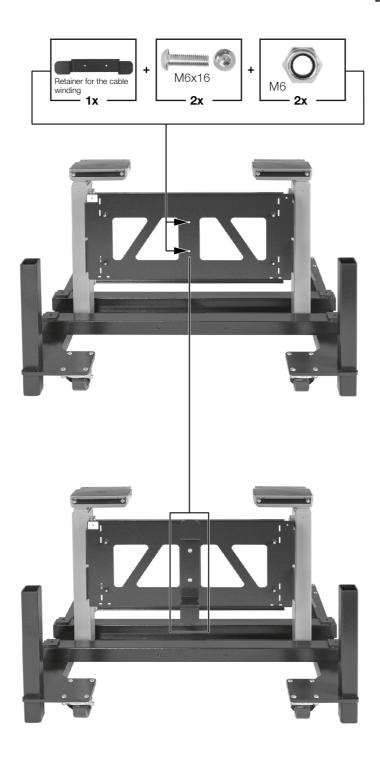






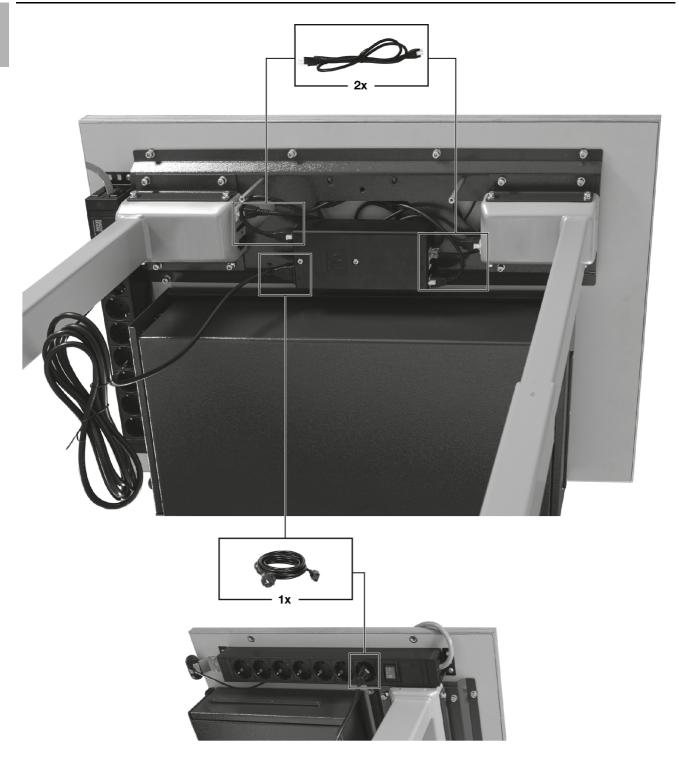






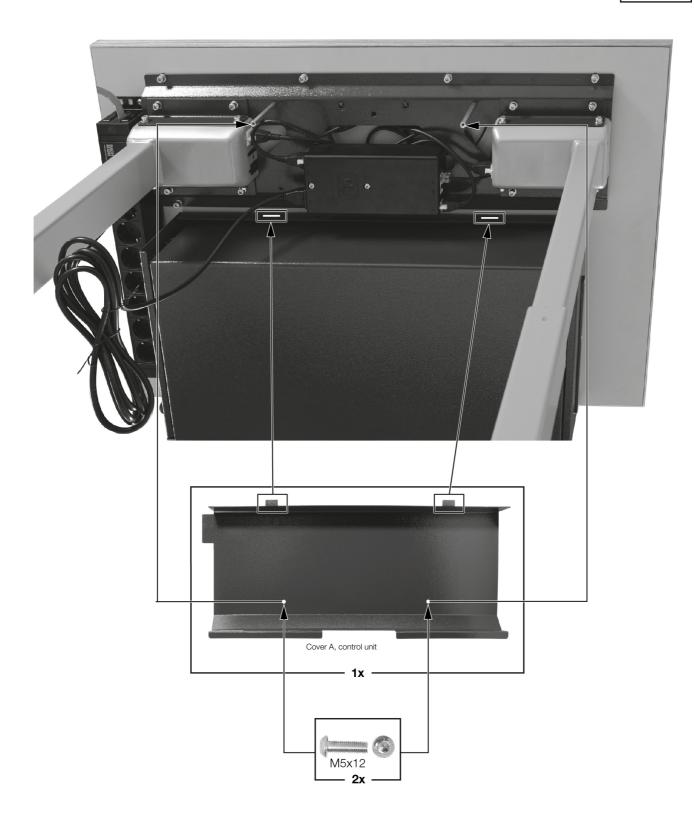


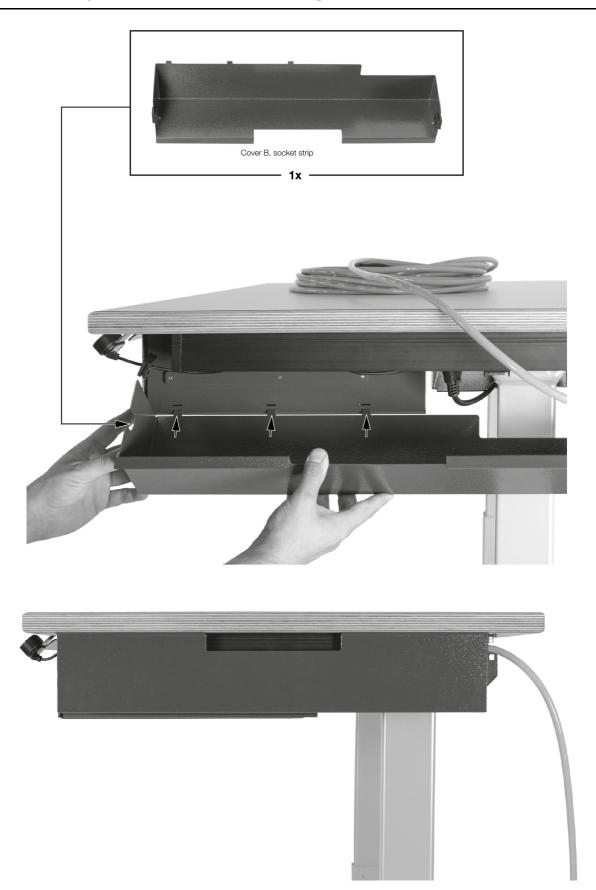




■ To mount the "cover A, control unit", it is desirable to raise the table to simplify access. First, synchronise the lifting axes (see section 5.2.1 "Lifting axes synchronisation"). The table can then be moved upwards with the Up key (see section 6 "Operation").







# 5.2 Commissioning

# 5.2.1 Lifting axes synchronisation



Fig. 1: Hand-held unit

### Legend

Down key
 Up key

To synchronise both lifting axes, they must now be initialised. Unless done previously, connect the Wire Station WS 540 to the power grid.

The DESKLINE system is initialised by pressing the Down key on the hand-held unit (fig. 1, item 1). The key must be kept pressed until the drives have reached the lower limit position. Once all drives have stopped at the lowest limit position, the Down key must be released for 2-3 seconds and then kept pressed for a further 6-8 seconds. The initialisation is then completed. The system is lowered and raised again by 5 mm during the initialisation. Under no circumstances, release the Down key during the initialisation.



### Note

If the key is released before the operation has completed, the initialisation is interrupted and must be begun again. No downward travel of the system is possible if the initialisation was interrupted.

# Synchronisation procedure

- Keep the Down key on the hand-held unit pressed until the drives have reached the lower limit position.
- Release the Down key for 2-3 seconds.
- Now keep the Down key pressed again for a further 6-8 seconds.
- After successful initialisation, move the lifting axes with the Up key to the uppermost position.



Fig. 2: Work table – upper position

■ When the Wire Station WS 540 is at the upper position, you can fix the Wire Station WS 540 supply cable to the rear panel.

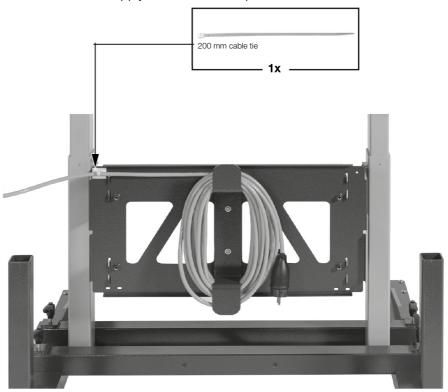


Fig. 3: Supply cable fixing

■ After fixing the supply cable, move the lifting axes again to the lowermost position. The synchronisation of the lifting axes has now completed and the Wire Station WS 540 is operational.



Fig. 4: Work table – lower position

# 6 Operation

The work surface can be raised and lowered with the Up and Down key of the hand-held unit, respectively.



Fig. 5: Hand-held unit

# Legend

- 1 Down key
- 2 Up key



Fig. 6: Work table – top and bottom position of the work surface

# 7 Maintenance

# 7.1 Servicing, repair

Perform regular checks in accordance with DGUV V3. These checks must be performed by a qualified electrician.

Also perform the following at shorter intervals:

■ Regular visual inspections to check for all types of damage. Check the housing for cracks and breaks, check the mains connection cable, manual switch cables and drive cables etc. for crushing and shearing, and the strain relief with kink protector, particularly following any mechanical pressure incidents.

To prevent malfunctions, DESKLINE® repairs must be performed only by authorised Rittal service personnel, because special tools must be used and seals adapted. Drive systems covered by warranty must be sent to Rittal.



## Warning!

If a DESKLINE® product is opened, there is the risk of the following malfunctions.



# Warning!

**DESKLINE®** systems do not tolerate any cutting oil.

# 7.2 Maintenance, care and safety instructions

# 7.2.1 Maintenance instructions

Repairs and maintenance should be performed regularly to prolong the service life of the Wire Station WS 540.

Perform the following checks before each use:

- The various parts of the Wire Station WS 540 should not be bent or twisted.
- Check the brakes for correct functioning and examine the wheels for signs of wear
- In regular intervals, remove any external dust and contamination on the system and ensure that no damage and cracks are present.
- Check the connections, cables and plugs as well as correct operation.
- In the event of defects, repairs must be performed promptly.
- The tubing should be lubricated once a month.
- Check the housing for cracks and breaks, check the connection cable for crushing and shearing, and the strain relief with kink protector, particularly following any mechanical pressure incident. For safety reasons, any damaged connection cables must be replaced by the manufacturer or by qualified experts.
- Clean plastic surfaces, e.g. housings, only with a slightly dampened cloth.

# 7.2.2 Operation of products with double or improved insulation



# **Protection class II**

Equipment with protection class II has an improved or double insulation between the mains circuit and the output voltage or the metal housing, and normally does not have any connection to the protective earth conductor. This protective measure is also called protective insulation (safe electrical separation). An improved insulation protects such equipment against contact with live parts even if has electrically conductive surfaces. Moveable units of protection class II normally do not have any protective contact plug; plugs without any protective contact are used to make the connection. In Europe, equipment with improved or double insulation must be marked with the "Protection class II" symbol (a square within another square). The operation of double-insulated products requires extreme care and knowledge of the system. Such products must be identical with the replaced products.

# 7.2.3 Cleaning

- The cleaning of the Wire Station WS 540 is facilitated by its many smooth surfaces. Cleaning and disinfection agents only with a pH value of 6-8 may be used, i.e. no highly alkaline or acidic agents.
- Follow the manufacturer's instructions for the detergent.
- To preclude damage to the unit, never clean the drive controller in an automated washing system or with a high-pressure cleaner, and never subject the unit to direct jets of water.
- Never use solvents such as petrol, alcohol, etc.

# 7.2.4 Disposal

The Wire Station WS 540 contains electronic components, cables, metals, plastics, etc. It must never be combined with domestic refuse and must be disposed of in accordance with the valid environmental legislation for your country.

# 7.2.5 Notes on environmental directives and legislation

- The product is compliant with EU Directive 2011/65/EU (RoHS as of July 1, 2011).
- The product is not subject to EU Directive 2002/96/EC (WEEE) and its supplement EU Directive 2003/108/EC.

# 8 Technical specifications

Technical specifications	
Designation	Wire Station WS 540
Dimensions and weight	
Width x height x depth, retracted [mm]	900 x 810 x 781
Width x height x depth, extended [mm]	900 x 1350 x 781
Weight	95 kg
Environmental conditions	
Room temperature [°C]	+10 to +40
Relative humidity [% at 30 °C]	20 to 80
Air pressure [hPa]	700 to 1060
DL6 lifting column	
Nominal voltage [V DC]	18
Power consumption at nominal load [A DC]	max. 10
Permissible pressure load [N]	max. 800
Switch-on duration at max. nominal load	10% ~2 min. continuous operation, followed by an 18 min. pause
Stroke [mm]	< 650
Adjustment speed [mm/s]	Approx. 38 (depending on the version)
Noise level [dB(A)]	55
CBD6S control unit	
Input voltage / frequency [V AC / Hz]	230/50
Input current [A]	1.3
Switch-on duration at max. nominal load	10% ~2 min. continuous operation, followed by an 18 min. pause

Tab. 2: Wire Station WS 540 technical specifications

# 9 Options

# 9.1 External mounting examples for options

The following figures show examples for the external mounting of the options listed in section 9.2.



Fig. 7: External mounting examples for options



Fig. 8: External mounting examples for options

# 9.2 Options list

Item	Figure	Model No.	Designation	Dimensions [mm]
		Description		
1	n	4051.108	AS WS 540 adaptor bracket	500 x 45 x 380 (L x W x H)
		Mounting loc Extension pie	acket for vertical attachment of additional ation: Side slide-in assembly on the foot face min./max.: 140 mm / 300 mm pacity: 70.0 kg	
2		4051.106	AS WS 540 fixing bar, vertical	1350 x 50 x 70 (L x W x H)
		Mounting loc	bar for the WS 540 for fastening optiona ation: Foot frame or adaptor bracket pacity: 70.0 kg	I accessories.
3		4051.116	AS WS 540 wire pack holder, left	205 x 208 x 93 (L x W x H)
		Mounting loc	vire packs, storage size 205 x 205 mm (V ation: Vertical mounting brace pacity: 3.5 kg	V x D).
4	4	4051.117	AS WS 540 wire pack holder, right	205 x 208 x 93 (L x W x H)
		Mounting loc	vire packs, storage size 205 x 205 mm (V ation: Vertical mounting brace pacity: 3.5 kg	V x D).

Item	Figure	Model No.	Designation	Dimensions [mm]
		Description		
5		Mounting loc	Wire reel holder  der for attaching standard wire reels. ation: Vertical mounting brace pacity: 15.0 kg	60 x 240 (W x L)
6		4051.104	AS WS 540 monitor attachment	450 x 50 x 430 (H x W x D)
		Mounting loc Extension pie	chment for the WS 540 with Vesa 75 and 10 ation: Under the WS 540 table top ece min./max.: 120 mm / 430 mm pacity: 10.0 kg	0.
7		Mounting loc	AS WS 540 mini-PC holder mini-PC, e.g. appropriate for Dell. ration: Left lifting column of the WS 540 pacity: 5.0 kg	190 x 76 x 230 (L x W x H)
8			AS WS 540 socket strip, 5-way, EU strip, 5-way with switch, 230 V / 50 Hz. ation: Fastening on the worktop	
9		4051.122	AS WS 540 socket strip, 5-way, US	
3		Table socket	strip, 5-way with switch, 110 V / 60 Hz. ation: Fastening on the worktop	

Item	Figure	Model No.	Designation	Dimensions [mm]	
		Description			
10	T.	4051.107	AS WS 540 storage box holder	110 x 350 (W x H)	
		accessories. Mounting loc Max. holder I	ation: Vertical mounting brace ation: Vertical mounting brace oad capacity: 12.0 kg onted storage box load capacity: 3.0 kg	poxes for small parts and	
11		4051.105	AS WS 540 LED work light	621 x 500 x 566 (L x W x H)	
			otating work light for the WS 540, dimmable ation: WS 540 table top	, 230 V / 50 Hz.	
12		4051.118	AS wire coil holder, left	370 x 425 x 150 (L x W x H)	
		Retainer for wire coils, storage size 432 x 385 mm (W x D).  Mounting location: Vertical mounting brace Max. load capacity: 25.0 kg			
13	o d	4051.119	AS wire coil holder, right	370 x 425 x 150 (L x W x H)	
		Mounting loc	wire coils, storage size 432 x 385 mm (W x ation: Vertical mounting brace pacity: 25.0 kg	D).	

Item	Figure	Model No.	Designation	Dimensions [mm]
		Description		
14		4051.101	AS WS 540 shelves	
		<ul><li>Top shelf 5</li><li>Bottom she</li></ul>	f set consisting of: 15 x 350 x 60 mm (L x W x H), max. load celf 515 x 215 x 60 mm (L x W x H), max. load celf side in the lifting columns ation: Plate between the lifting columns	
15		4051.109	AS WS 540 universal support shelf	190 x 135 mm (L x W)
		Mounting loc	f for small parts and accessories. ation: Vertical mounting brace pacity: 1.5 kg	
16	0	4051.115	AS WS 540 waste bin	282 x 135 x 120 (L x W x H)
		Mounting loc	cluding retainer. ation: WS 540 right lifting column pacity: 12.0 kg	
17		4051.113	AS WS 540 tool holder, round	100 x 88 (W x H)
		Mounting loc	rainer / beverage retainer. ation: WS 540 table top pacity: 5.0 kg	
18		4051.120	AS WS 540 wire guide, vertical strut	170 x 125 x 235 (L x W x H)
			kture for the length-cutting machine. ation: Vertical mounting brace	

Item	Figure	Model No.	Designation	Dimensions [mm]	
Item	rigure			Dimensions [mm]	
		Description			
19		4051.121	AS WS 540 wire guide, component support	170 x 30 x 190 (L x W x H)	
		Wire guide fixture for the length-cutting machine.  Mounting location: Component support			
20	A/ A/ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	4051.111	AS WS 540 magazine support	340 x 200 x 40 (L x W x H)	
		Mounting loc	oport for accepting four wire rail magazines v ation: Vertical mounting brace pacity: 20.0 kg	vith preassembled wires.	
21		4051.112	AS WS 540 stripping machine console	285 x 185 x 500 (L x W x H)	
		Console for accepting an insulation stripping machine.  Mounting location: Slide-in assembly from above in the component support arm Max. load capacity: 15.0 kg			

Item	Figure	Model No.	Designation	Dimensions [mm]
	_	Description		
22		4051.102	AS WS 540 component support, left	
	- - -	<ul><li>Componer capacity: 7</li><li>Console for capacity: 3</li></ul>	r printer, 425 x 275 x 500 mm (L x W x H), may r length-cutting machine, 325 x 320 x 500 m $^{\circ}$	x W x H), max. load  ax. load capacity: 20.0 kg  m (L x W x H), max. load
23		<ul><li>Componer capacity: 7</li><li>Console fo capacity: 2</li></ul>	r crimping machine, 320 x 325 x 500 mm (L	L x W x H), max. load

Item	Figure	Model No.	Designation	Dimensions [mm]	
		Description			
24		4051.124	AS WS 540 stabiliser	56 x 255 x 37 (L x W x H)	
		Mounting loc brace, vertica	stable support to prevent tipping for imbalan ation: Component support, left; component : al pacity: 70.0 kg		

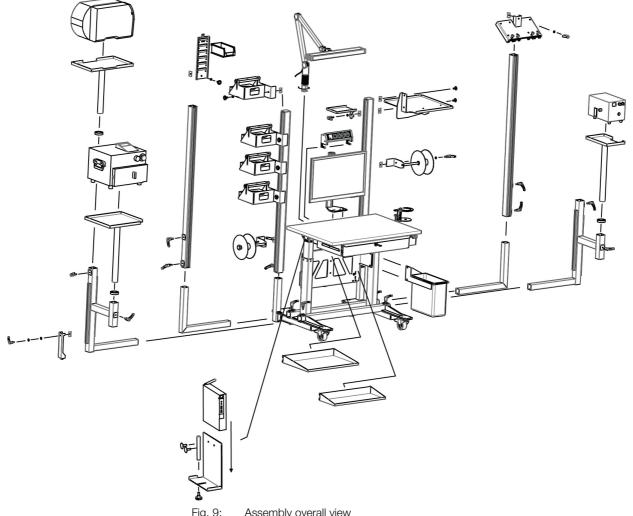
### 9.3 **Options assembly**

The following figures show the assembly of the options listed in section 9.2.



# Caution!

All screws, star handles and levers for which no torque is specified in the assembly drawings must be hand-tightened.



Assembly overall view

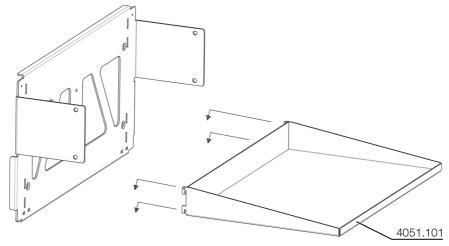


Fig. 10: Shelves assembly

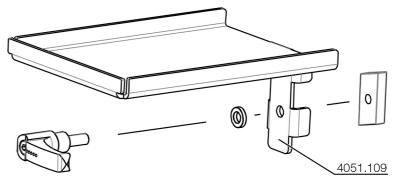


Fig. 11: Universal support shelf assembly

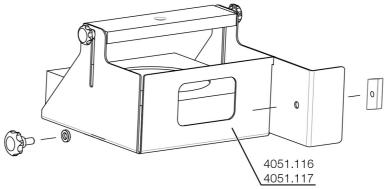


Fig. 12: Wire pack holder assembly

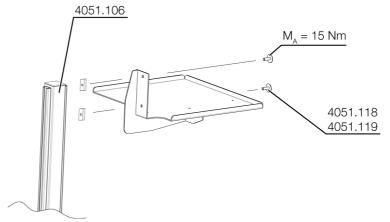


Fig. 13: Wire coil holder assembly

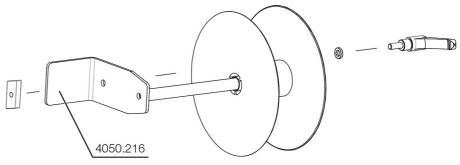


Fig. 14: Wire reel holder assembly

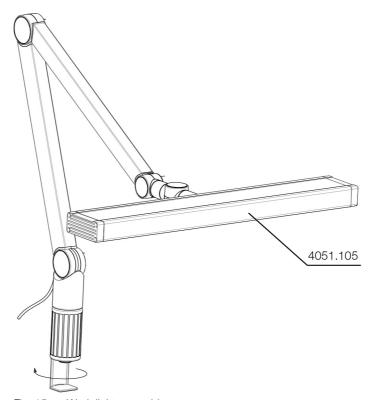


Fig. 15: Work light assembly

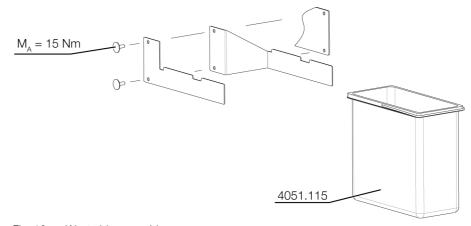


Fig. 16: Waste bin assembly

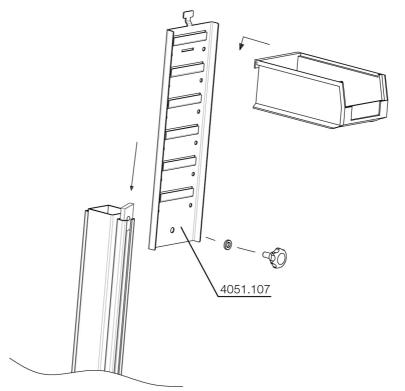
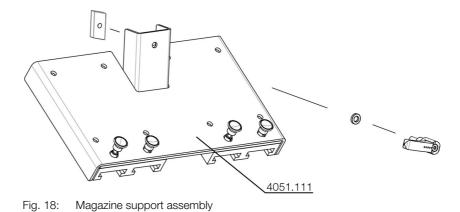


Fig. 17: Storage box holder assembly



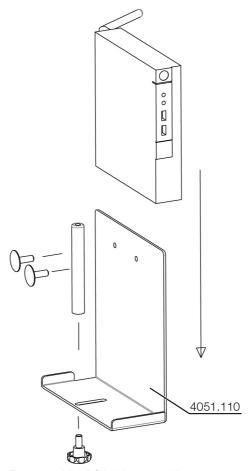


Fig. 19: Mini-PC holder assembly

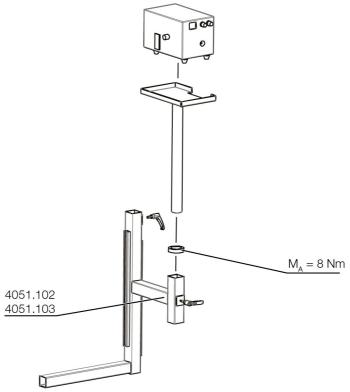


Fig. 20: Component support unit assembly

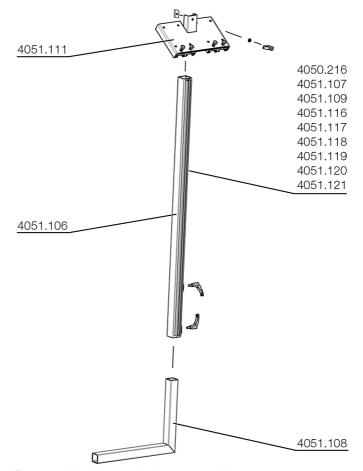


Fig. 21: Vertical mounting brace assembly

# Vereinfachte EU-Konformitätserklärung / Simplified EU Declaration of Conformity



Wir We

# Rittal GmbH & Co. KG, Auf dem Stützelberg, 35745 Herborn

erklären hiermit, dass die Produkte hereby declare that the products

Wire Station WS 540 AS 4051.100

(Artikel gemäß dieser Anleitung / Types referenced in this manual)

folgenden Richtlinien entsprechen: conform to the following directives:

# 2006/42/EG Maschinenrichtlinie – 2006/42/EC Machinery Directive 2014/30/EU EMV-Richtlinie – 2014/30/EU EMC Directive

Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese EU-Konformitätserklärung ihre Gültigkeit.

This EU declaration of conformity shall become null and void when the assembly is subjected to any modification that has not met with our approval.

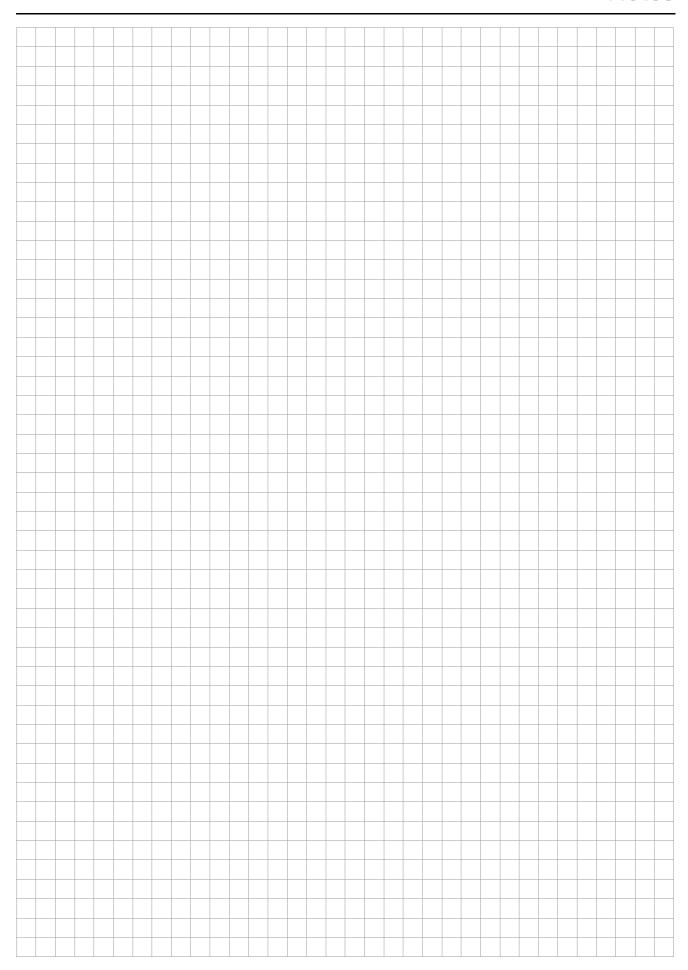
Die vollständige und unterschriebene EU-Konformitätserklärung erhalten Sie auf der Produktseite der Rittal Homepage www.rittal.com.

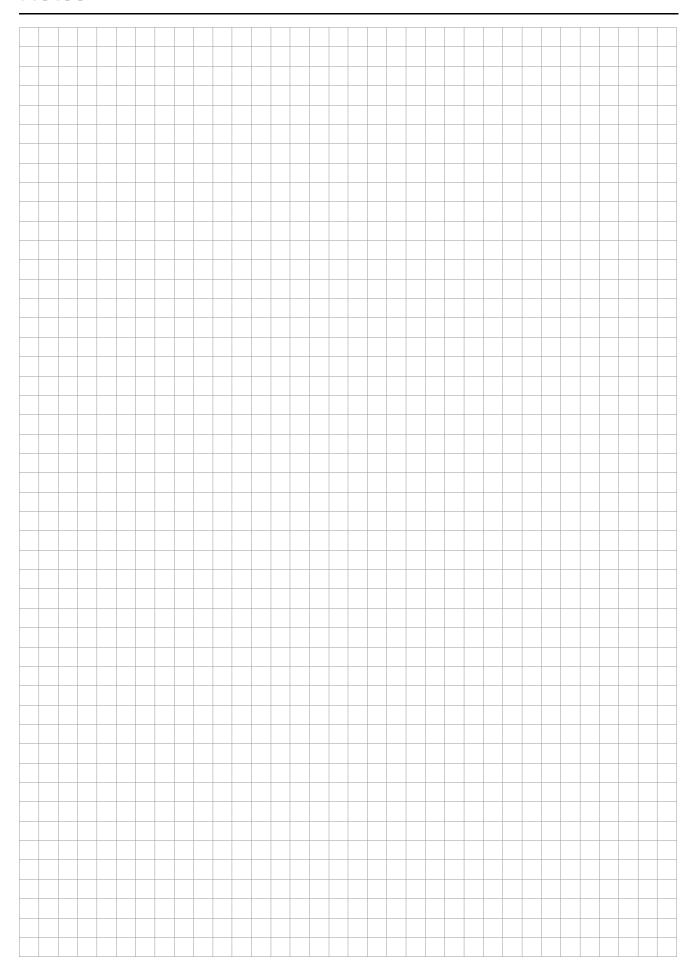
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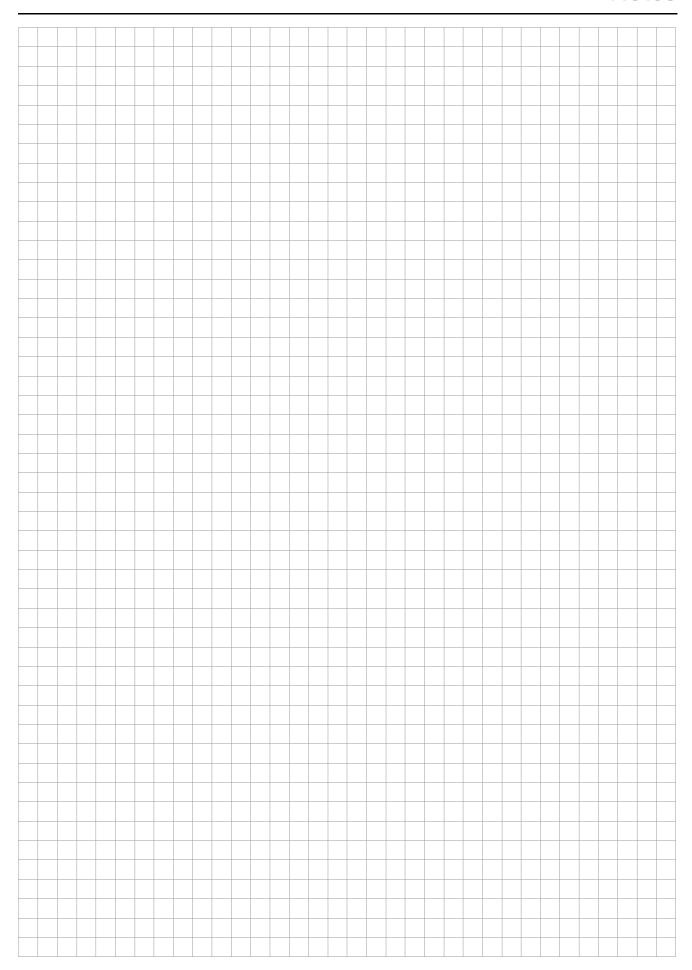
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