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► Railway technology solutions



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SOFTWARE & SERVICES

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Rittal – The System.

Faster – better – everywhere.

Railway technology

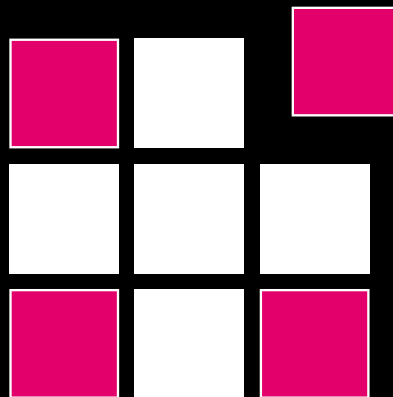
Every sector places its own specific demands on the associated applications. For the “Rail” sector, therefore, Rittal offers complete system solutions whose robustness and functionality meet every requirement, e. g. solutions for train control and protection, data communication, traction power supplies, signalling systems and tunnel safety. In dialogue with customers, Rittal develops efficient products for static use. Whether indoors and outdoors. Tailored sector solutions in full compliance with the typically strict specifications and standards to be observed by housings, enclosures, climate control and power distribution components for use in this field.

As our solutions are based on the wide product diversity of the standard Rittal range, considerable cost and time can be saved through flexible combination and fast availability from stock.

The perfectly developed system platform, the innovative products, future-oriented engineering solutions and all-embracing service are merged optimally for your benefit: “Rittal – The System.” This system offers all the elements you need to configure your own, precisely customised system solution.

The benefits for Rittal customers:

- Wide product diversity
- Engineering
- Local service



**Our Expertise.
Your Benefit.**

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Indoor

Traffic control and monitoring, IT, building power supplies, customer information systems – maximum safety and absolute reliability are imperative in rail transport operations. The infrastructure solutions from Rittal meet these high demands.

Testing in our own research laboratories and manufacturing in certified production facilities are the basis for identically high product quality and service standards with global availability. On the basis of standard products, Rittal develops individual, sector-specific solution and service concepts with exemplary cost-benefit profiles.

For the indoor sector, Rittal offers a diversity of wall-mounting and free-standing enclosures from stock, as well as efficient IT infrastructures with optimum equipment for data and communication centres, e. g. GSM-R networking, ticketing systems and logistics applications.

Further Rittal solutions cater for power distribution: From distribution boards for building supplies up to redundant IT power installations with corresponding UPS systems. For climate control, Rittal delivers the decisive advantage, with efficient system climate control solutions for all ambient conditions and power losses. This naturally includes also housing and enclosure climate control.

Outdoor

Railway operators tolerate no interruptions. Whether it rains or snows, and irrespective of whatever other extreme ambient conditions may arise. If everything is to run smoothly and continuously, all those components which shield essential functions from the influences of the weather must deliver ultimate performance.

Rittal outdoor enclosures with climate control defy wind and weather – and even vandalism if need be. They are manufactured from high-quality materials (aluminium or stainless steel) and embody decades of production experience.

The proven modular concept “Rittal – The System.” stands for enormous variety based on standard solutions. Series enclosures available directly from stock and practically unlimited accessory compatibility thanks to a common system platform.

For outdoor use, Rittal supplies secure and durable housings in single-and double-walled designs. High-quality standard products can be combined with further Rittal system modules to meet individual requirements – whether that means special colours or an optional nano-coating as protection against dirt.

Where IT components and at the focus of an outdoor project, the needs can be met with CS Outdoor or container solutions for mobile BTS equipment. In the field of power distribution, too, Rittal offers numerous solutions.

These range from simple housings and enclosures with ISV distribution modules to redundant IT power supplies including full UPS functionality. In addition, Rittal develops efficient system climate control solutions for all ambient conditions and power losses, with corresponding specifications for either indoor or outdoor deployment.



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Rail Acceptance

Within this brochure is a list of many approved products that are frequently used within the UK rail sector.

Dependant on your requirement we have gained PADS approvals for a wide range of products along with products that have been used for London Underground (LU) which have been approved for use against the S1085 specification for flammability, smoke and toxicity.

The enclosed range takes into account the facility to provide a safe environment for the installed equipment from the smallest to the largest, from indoor to outdoor whether it's going track side or for a tunnel application.

We supply:

LONDON UNDERGROUND

NETWORK RAIL

SCOTRAIL

CROSSRAIL

HS2



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Junction Boxes for London Underground & Network Rail Projects



Material:

- Enclosure: Cast aluminium
- Cover: Cast aluminium, all-round CR cellular rubber cord seal

Colour:

- RAL 7001

Protection category:

- IP 66 to IEC 60 529, complies with NEMA 4

Supply includes:

- Enclosure with cover
- Cover screws, captive
- Screws for attaching support rails
- Screw for connection of the PE conductor

Detailed drawings:

- Available on the internet

Applications:

- London Underground & Network Rail

Cast aluminium box GA

Dimensions mm			Packs of	Model No. GA	Accessories					
					Mounting plate	Packs of	Wall mounting bracket	Packs of	Hinge, exterior	Packs of
W	H	D								
58	64	34	5 pc(s).	9101.210	—	—	—	—	—	—
98	64	35	3 pc(s).	9102.210	—	—	—	—	—	—
75	80	57	1 pc(s).	9104.210	—	—	—	—	—	—
125	80	57	1 pc(s).	9105.210	9105.700	10 pc(s).	—	—	—	—
175	80	57	1 pc(s).	9106.210	—	—	—	—	—	—
250	80	57	1 pc(s).	9107.210	—	—	—	—	—	—
122	120	80	1 pc(s).	9108.210	9108.700	2 pc(s).	9121.122	2 pc(s).	9123.000	2 pc(s).
220	120	91	1 pc(s).	9110.210	9110.700	2 pc(s).	9121.122	2 pc(s).	9123.000	2 pc(s).
360	120	82	1 pc(s).	9111.210	—	—	9121.122	2 pc(s).	9123.000	2 pc(s).
160	160	91	1 pc(s).	9112.210	9112.700	2 pc(s).	9121.160	2 pc(s).	9123.000	2 pc(s).
260	160	91	1 pc(s).	9113.210	9113.700	2 pc(s).	9121.160	2 pc(s).	9123.000	2 pc(s).
360	160	91	1 pc(s).	9114.210	9114.700	1 pc(s).	9121.160	2 pc(s).	9123.000	2 pc(s).
202	232	111	1 pc(s).	9116.210	9116.700	1 pc(s).	9121.230	2 pc(s).	9123.000	2 pc(s).
280	232	111	1 pc(s).	9117.210	9117.700	1 pc(s).	9121.230	2 pc(s).	9123.000	2 pc(s).
334	233	111	1 pc(s).	9118.210	9118.700	1 pc(s).	9121.230	2 pc(s).	9123.000	2 pc(s).
330	230	181	1 pc(s).	9119.210	9118.700	1 pc(s).	9121.230	2 pc(s).	9123.000	2 pc(s).

A tough cast aluminium junction/terminal box with a high IP rating and screw fix lid that has been used extensively within London Underground projects and Network Rail.

Options include din rail, mounting plates, hinges and wall mount brackets to support your requirements.

Junction Boxes for London Underground & Network Rail Projects



Material:

- Enclosure: Sheet steel
- Cover: Sheet steel, all-round foamed-in PU seal

Surface finish:

- Enclosure and cover: Dipcoat-primed, powder coated on the outside, textured paint

Supply includes:

- Enclosure with cover
- Quick-action screw including plastic bushes
- For enclosures with gland plate plus sheet steel gland plates with seals and assembly parts

Colour:

- RAL 7035

Protection category:

- Without gland plate: IP66 to IEC 60 529, complies with NEMA 4
- With gland plate: IP55 to IEC 60 529, complies with NEMA 12

Approvals:

- UL
- cUL
- CSA
- TÜV
- Germanischer Lloyd
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas

Detailed drawings:

- Available on the internet.

Applications:

- London Underground & Network Rail

Sheet steel junction box KL

Dimensions mm			Material Thickness		Model No. KL	Gland Plate	Weight (kg)	Gland Plate				Accessories						
								Top	Bot-tom	Left	Right	Mounting Plate	Support Rail TS 35/15	Cover Retainer	Cover Hinge	Earthing Set	Wall mounting bracket with 8mm distance from wall	Optional quick-release fastener for KL PK12
150	150	80	1,25	1,25	1514.510	-	1,4					1560.700	2314.000	1591.000	1592.000	2570.100	1590.000	1593.000
200	150	80	1,25	1,25	1528.510	-	1,6					1575.700	2315.000	1591.000	1592.000	2570.100	1590.000	1593.000
200	200	80	1,25	1,25	1516.510	-	1,9					1562.700	2315.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	150	80	1,25	1,25	1515.510	-	2,1					1561.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	200	80	1,25	1,25	1517.510	-	2,6					1563.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	200	80	1,25	1,25	1518.510	-	3,2					1564.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	200	80	1,25	1,25	1519.510	-	4,6					1566.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
150	150	120	1,25	1,25	1500.510	-	1,6	-	-			1560.700	2314.000	1591.000	1592.000	2570.100	1590.000	1593.000
200	150	120	1,25	1,25	1529.510	-	1,8	-	-			1575.700	2315.000	1591.000	1592.000	2570.100	1590.000	1593.000
200	200	120	1,25	1,25	1502.510	-	2,3	-	-			1562.700	2315.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	150	120	1,25	1,25	1501.510	-	2,6	-	-			1561.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	150	120	1,25	1,25	1530.510	•	2,7	2	1	+	1	1561.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	200	120	1,25	1,25	1503.510	-	3,0	-	-			1563.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	200	120	1,25	1,25	1531.510	•	3,3	2	1	+	1	1563.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	300	120	1,38	1,25	1507.510	-	4,0	-	-			1567.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
300	300	120	1,38	1,25	1535.510	•	4,5	2	1	+	1	1567.700	2316.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	150	120	1,25	1,25	1589.510	-	3,2	-	-			1576.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	200	120	1,25	1,25	1504.510	-	3,6	-	-			1564.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	200	120	1,25	1,25	1532.510	•	4,0	2	1	+	1	1564.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	300	120	1,38	1,25	1508.510	-	4,8	-	-			1568.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	300	120	1,38	1,25	1536.510	•	5,2	2	1	+	1	1568.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	400	120	1,38	1,25	1511.510	-	6,2	-	-			1571.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
400	400	120	1,38	1,25	1539.510	•	6,7	2	1	+	1	1571.700	2317.000	1591.000	1592.000	2570.100	1590.000	1593.000
500	200	120	1,25	1,25	1505.510	-	4,4	-	-			1565.700	2318.000	1591.000	1592.000	2570.100	1590.000	1593.000
500	200	120	1,25	1,25	1533.510	•	4,9	2	2	+	2	1565.700	2318.000	1591.000	1592.000	2570.100	1590.000	1593.000
500	300	120	1,38	1,25	1509.510	-	5,8	-	-			1569.700	2318.000	1591.000	1592.000	2570.100	1590.000	1593.000
500	300	120	1,38	1,25	1537.510	•	5,2	2	2+2			1569.700	2318.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	200	120	1,25	1,25	1506.510	-	5,7	-	-			1566.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	200	120	1,25	1,25	1534.510	•	5,9	2	2	+	2	1566.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	300	120	1,38	1,25	1510.510	-	6,8	-	-			1570.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	300	120	1,38	1,25	1538.510	•	7,7	2	2	+	2	1570.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	400	120	1,38	1,25	1512.510	-	8,4	-	-			1572.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
600	400	120	1,38	1,25	1540.510	•	9,0	2	2+2			1572.700	2319.000	1591.000	1592.000	2570.100	1590.000	1593.000
800	200	120	1,25	1,25	1527.510	-	6,8	-	-			1574.700	-	1591.000	1592.000	2570.100	1590.000	1593.000
800	200	120	1,25	1,25	1542.510	•	7,2	2	3+3			1574.700	-	1591.000	1592.000	2570.100	1590.000	1593.000
800	400	120	1,38	1,25	1513.510	-	11	0	-	-		1573.700	-	1591.000	1592.000	2570.100	1590.000	1593.000
800	400	120	1,38	1,25	1541.510	•	12,0	2	3+3			1573.700	-	1591.000	1592.000	2570.100	1590.000	1593.000

Sheet steel junction/terminal box with gland plate options used on London Underground and Network Rail projects with a range of accessories available. EMC versions also available on request.

Junction Boxes for London Underground & Network Rail Projects



Material:

- Enclosure: Stainless steel 1.4301 (AISI 304)
- Cover / door: Stainless steel 1.4301 (AISI 304), all round foamed-in PU seal
- Mounting plate: Sheet steel (AE)

Surface finish:

- Enclosure and cover / door: Brushed, grain 180 (KL)
Brushed, grain 400, peak-to-valley height < 0.8 µm (AE)

Protection category IP to IEC 60 529:

- IP66

Protection category NEMA:

- NEMA 4X

Detailed drawings:

- Available on the internet.

Supply includes:

- Enclosure with cover (KL)
- Quick-release fastener including plastic bushes (KL)
- Enclosure with door(s) (AE)
- Mounting plate (AE)
- Lock: 3 mm double-bit (AE)

Please observe the product specific scope of supply.

Approvals:

- cUL
- UL
- CSA
- TÜV
- DNV GL
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas

Applications:

- London Underground & Network Rail

Stainless Steel wall-mounted AE

Dimensions mm			Model No. AE	Wall mounting bracket	Wall mounting bracket	Wall angle	Pole clamp	Cam lock
W	H	D						
Packs of				4	4	4	1	1
200	300	120	1001.600	2433.000	—	2583.010	2584.000	2304.000
200	300	155	1002.600	2433.000	—	2583.010	2584.000	2304.000
200	300	155	1002.500	—	2433.500	2583.010	2584.000	2304.000
300	300	210	1003.600	2433.000	—	2583.010	2584.000	2304.000
380	300	155	1004.600	2433.000	—	2583.010	2584.000	2304.000
380	300	210	1011.600	2433.000	—	2583.010	2584.000	2304.000
300	380	210	1005.600	2433.000	—	2583.010	2584.000	2304.000
300	380	210	1005.500	—	2433.500	2583.010	2584.000	2304.000
380	380	210	1006.600	2433.000	—	2583.010	2584.000	2304.000
380	380	210	1006.500	—	2433.500	2583.010	2584.000	2304.000
600	380	210	1009.600	2433.000	—	2583.010	2584.000	2304.000
400	500	210	1015.600	2433.000	—	2583.010	2584.000	2304.000
500	500	210	1007.600	2433.000	—	2583.010	2584.000	2304.000
500	500	300	1013.600	2433.000	—	2583.010	2584.000	2304.000
380	600	210	1008.600	2433.000	—	2583.010	2584.000	2304.000
600	600	210	1010.600	2473.000	—	2583.010	2584.000	2304.000
600	600	210	1010.500	—	2433.500	2583.010	2584.000	2304.000
600	760	210	1012.600	2433.000	—	2583.010	2584.000	2304.000
760	760	300	1014.600	2474.000	2433.000	2583.010	—	2304.000
800	1000	300	1016.600	2475.000	2433.000	2583.010	—	2304.000
800	1200	300	1017.600	2475.000	2433.000	2583.010	—	—
*1000	1000	300	1018.600	2363.000	2433.000	2583.010	—	2304.000
*1000	1200	300	1019.600	2363.000	2433.000	2583.010	—	—
*1000	1200	300	1019.500	2363.000	—	2583.010	—	—

* IP 55 - double door

Compact enclosure AE

Protection category IP 66 / *IP 55



Stainless Steel junction box KL

Dimensions mm			Model No. KL	Wall mounting bracket	Wall angle	Pole clamp	Cover hinge
W	H	D					
Packs of			1	4	4	2	2
150	150	80	1521.010	1594.000	2583.010	2584.000	1592.010
150	150	120	1527.010	1594.000	2583.010	2584.000	1592.010
300	150	80	1522.010	1594.000	2583.010	2584.000	1592.010
200	200	80	1523.010	1594.000	2583.010	2584.000	1592.010
200	200	120	1528.010	1594.000	2583.010	2584.000	1592.010
300	200	80	1524.010	1594.000	2583.010	2584.000	1592.010
300	200	120	1529.010	1594.000	2583.010	2584.000	1592.010
400	200	120	1525.010	1594.000	2583.010	2584.000	1592.010
300	300	120	1526.010	1594.000	2583.010	2584.000	1592.010
400	300	120	1530.010	1594.000	2583.010	2584.000	1592.010

Terminal boxes KL

Protection category IP 66



Wall-mounted enclosures for London Underground & Network Rail Projects



Material:

- Enclosure: Sheet steel
- Door: Sheet Steel, all-round foamed-in PU seal

Surface finish:

- Enclosure and door: Dipcoat-primed, powder-coated on the outside, textured paint
- Mounting plate: Zinc-plated

Approvals:

- cUL
- CSA
- TÜV
- Germanischer Lloyd
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas

Protection category:

- See tables

Supply includes:

- Enclosure with hinged door(s) of all round solid construction
- Gland plate(s) in enclosure base
- For single-door enclosures hinged on right, may be swapped to left (except with AE 1032.500 and AE 1035.500)
- With cam lock or 3-point lock system
- Mounting plate

Colour:

- RAL 7035

Detailed drawings:

- Available on the internet

Applications:

- London Underground & Network Rail

Sheet steel wall-mounted AE

Dimensions mm			Mounting plate mm		Material thickness mm		Mounting Plate thickness mm	Cam lock * = 3-point locking system	Model No. AE	Weight (Kg)	Accessories							
											Gland plate		Rail for Interior Installation	Wall Brackets	Rain Canopy			
W	H	D	W	H	Box	Door					Size	Qty			Sheet Steel	Stainless Steel		
Qty.											4 units		1 unit		1 unit		1 unit	
200	300	120	162	275	1,25	1,5	2,0	1	1032.500	4,0	1	1	-	2508.100	-	-		
200	300	155	162	275	1,25	1,5	2,0	1	1035.500	4,5	1	1	-	2508.100	-	2470.000		
300	300	155	254	275	1,38	1,5	2,0	1	1036.500	6,1	-	1	-	2508.100	-	-		
300	300	210	254	275	1,38	1,5	2,0	1	1033.500	7,0	-	1	2383.210	2508.100	-	2361.000		
300	400	210	254	375	1,38	1,5	2,0	1	1034.500	8,8	-	1	2383.210	2508.100	-	2361.000		
380	300	155	334	275	1,38	1,5	2,0	1	1030.500	7,4	3	1	-	2508.100	-	2471.000		
380	300	210	334	275	1,38	1,5	2,0	1	1031.500	7,5	3	1	2383.210	2508.100	2501.500	2472.000		
380	380	210	334	355	1,38	1,5	2,0	1	1380.500	9,8	3	1	2383.210	2508.100	2501.500	2472.000		
380	600	210	334	570	1,38	1,5	2,5	2	1038.500	15,6	3	1	2383.210	2508.100	2501.500	2472.000		
380	600	350	334	570	1,5	1,5	2,5	2	1338.500	19,4	4	1	2383.350	2508.100	-	-		
400	500	210	354	475	1,38	1,5	2	2	1045.500	13	4	1	2383.210	2508.100	-	-		
400	800	300	349	770	1,5	2,0	3,0	2	1037.500	26,2	4	1	2383.300	2508.100	-	-		
500	500	210	449	470	1,38	1,75	2,5	2	1050.500	16,8	4	1	2383.210	2508.100	-	2362.000		
500	500	300	449	470	1,5	1,75	2,5	2	1350.500	19,6	4	1	2383.300	2508.100	-	-		
500	700	250	449	670	1,5	2,0	2,5	2	1057.500	31,2	4	1	2383.250	2508.100	-	-		
600	380	210	549	355	1,38	1,5	2,5	1	1039.500	15,4	5	1	2383.210	2508.100	2502.500	2473.000		
600	380	350	549	355	1,5	1,5	2,5	1	1339.500	20,0	5	1	2383.350	2508.100	2511.500	-		
600	600	210	549	570	1,38	1,75	2,5	2	1060.500	22,8	5	1	2383.210	2508.100	2502.500	2473.000		
600	600	250	549	570	1,5	1,75	2,5	2	1054.500	24,8	5	1	2383.250	2508.100	-	-		
600	600	350	549	570	1,5	1,75	2,5	2	1360.500	28,4	5	1	2383.350	2508.100	2511.500	-		
600	760	210	549	730	1,38	2,0	3,0	2	1076.500	32,1	5	1	2383.210	2508.100	2502.500	2473.000		
600	760	350	549	730	1,5	2,0	3,0	2	1376.500	36,0	5	1	2383.350	2508.100	2511.500	-		
600	800	250	549	770	1,5	2,0	3,0	2	1058.500	33,6	5	1	2383.250	2508.100	-	-		
600	1000	250	539	955	1,5	2,0	3,0	2	1090.500	50,5	5	1	2383.250	2508.100	-	-		
600	1200	300	540	1155	1,5	2,0	3,0	*	1260.500	55,0	5	1	2383.300	2508.100	-	-		
760	760	210	704	730	1,5	2,0	3,0	2	1077.500	40,0	5	1	2383.210	2508.100	-	-		
760	760	300	704	730	1,5	2,0	3,0	2	1073.500	44,5	5	1	2383.300	2508.100	-	2474.000		
800	600	300	749	570	1,5	2,0	2,5	2	1055.500	33,9	5	1	2383.300	2508.100	-	2475.000		
800	1000	300	739	955	1,5	2,0	3,0	2	1180.500	57,0	5	1	2383.300	2508.100	-	2475.000		
800	1200	300	740	1155	1,5	2,0	3,0	*	1280.500	70,0	5	1	2383.300	2508.100	-	2475.000		
1000	760	210	944	730	1,5	2,0	3,0	2	1100.500	52	4	2	2383.210	2508.100	-	2363.000		
1000	760	300	944	730	1,5	2	3	2	1130.500	56	4	2	2383.300	2508.100	-	2363.000		
1000	1000	300	939	955	1,5	2,0	3,0	2	1110.500	71,0	4	2	2383.300	2508.100	-	2363.000		
1000	1200	300	940	1155	1,5	2,0	3,0	*	1213.500	85,0	4	2	2383.300	2508.100	-	2363.000		
1000	1400	300	940	1355	1,5	2,0	3,0	*	1114.500	97,0	4	2	2383.300	2508.100	-	2363.000		

Sheet steel wall mounted enclosure with hinged door and alternative lock options and a wide range of accessories.

Used on London Underground & Network Rail projects. EMC versions also available including stainless steel. Please ask for details.

Wall-mounted enclosures for Network Rail Projects



Material:

- Enclosure and door: Fibre-glass-reinforced unsaturated polyester
- Door: All-round foamed-in PU seal
- Mounting plate: Sheet steel
- Viewing window: Glazed acrylic, 3.0mm with all-round rubber cable clamp strip

Surface finish:

- Enclosure and door: Dyed plastic with no after-treatment
- Mounting plate: Zinc-plated

Colour:

- Similar to RAL 7035

Protection category:

- See Table

Supply includes:

- Enclosure with hinged door, of all-round solid construction, 3mm double-bit lock
- Mounting plate
- Twin seal on the top and bottom edges of the door as integral rain protection strip
- Press-fitted C sections at the sides for infinitely variable mounting plate depth adjustment

Please note the product-specific scope of supply.

Detailed drawings:

- Available on the internet

Applications:

- Network Rail

GRP wall-mounted KS

Dimensions mm			Mounting plate mm		Mounting Plate thickness mm	Model No. AE	Weight (Kg)	Protection category IP to IEC 60 529	Protection category NEMA	Product-specific scope of supply					
										Door(s)	Door hinged on the right, may be swapped to the left	Removable centre bar, lockable door on right	Viewing window	Cam lock	3-point lock system
W	H	D	W	H											
Qty.															
200	300	150	145	250	2	1423.500	3.4	IP 66	NEMA 4X	1	■	–	–	1	–
250	350	150	195	300	2	1432.500	4.3	IP 66	NEMA 4X	1	■	–	–	1	–
300	400	200	245	350	2	1434.500	5.9	IP 66	NEMA 4X	1	■	–	–	2	–
400	400	200	345	350	2.5	1444.500	7.9	IP 66	NEMA 4X	1	■	–	–	2	–
400	400	200	345	350	2.5	1448.500	8	IP 56	NEMA 12	1	■	–	■	2	–
400	600	200	345	550	2.5	1446.500	11.5	IP 66	NEMA 4X	1	■	–	–	2	–
400	600	200	345	550	2.5	1449.500	11.2	IP 56	NEMA 12	1	■	–	■	2	–
500	500	300	417	450	2.5	1453.500	13.5	IP 66	NEMA 4X	1	■	–	–	2	–
500	500	300	417	450	2.5	1454.500	13.4	IP 56	NEMA 12	1	■	–	■	2	–
600	600	200	545	550	2.5	1466.500	15.9	IP 66	NEMA 4X	1	■	–	–	2	–
600	600	200	545	550	2.5	1467.500	15.6	IP 56	NEMA 12	1	■	–	■	2	–
600	800	300	517	750	3.0	1468.500	26.5	IP 66	NEMA 4X	1	■	–	–	–	■
600	800	300	517	750	3.0	1469.500	26.0	IP 56	NEMA 12	1	■	–	■	–	■
800	1000	300	717	950	3.0	1479.500	39.9	IP 56	NEMA 12	1	■	–	■	–	■
800	1000	300	717	950	3.0	1480.500	41.7	IP 66	NEMA 4X	1	■	–	–	–	■
1000	1000	300	917	950	3.0	1400.500	51.6	IP 56	NEMA 12	2	–	■	–	–	■

Glass reinforced plastic enclosure with hinged lockable door including mounting plate.

Suitable for indoor and outdoor applications complete with integral rain protection strips.

Used on a number of Network Rail projects.

Wall-mounted enclosures for London Underground & Network Rail Projects



Material:

- Sheet steel
- Viewing window: Single-pane safety glass, 3mm

Surface finish:

- Powder coated

Colour:

- RAL 7035

Benefits:

- Tool-free quick assembly
- System assembly on the open 482.6mm (19") frame

Detailed drawings:

- Available on the internet

Applications:

- London Underground & Network Rail

Supply includes:

- Flat-packed enclosure
- 1 wall section
- 2 basic supports
- 2 roof/base plates, with cut-outs for cable entry via brush strips
- 2 side panels, lockable
- 1 glazed door, lockable, security lock 3524 E, door hinge point selectable
- Connection components for tool-free, fast assembly
- Earthing kit for system-compatible earthing of all enclosure parts

Please note the product-specific scope of supply

Note:

- Max. installation depth: Depth -112 mm
- Max. distance between two
- 482.6 mm (19") levels: Depth -126 mm

IT "19 inch" wall-mounted Flatbox

Dimensions mm			Units U	Model No. DK	Supply	Accessories							
						Mounting Angles 482.6mm (19")	Levelling feet	Cover plates for fan panels	Earth Rail, horizontal	Enclosure internal thermostat	Cable Management panel	Component Shelf 2U, static installation	Component shelves, pull-out
Packs of						2 pc(s).	4 pc(s).	6 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 pc(s).	1 set(s)
600	358	400	6	7507.000	1 (pc(s).	7507.706	7507.740	7507.760	7113.000	3110.000	5502.205	7119.250	-
500	358	600	6	7507.100	1 (pc(s).	7507.706	7507.740	7507.760	7113.000	3110.000	5502.205		5501.675
600	492	400	9	7507.010	1 (pc(s).	7507.709	7507.740	7507.760	7113.000	3110.000	5502.205	7119.250	-
600	492	600	9	7507.110	1 (pc(s).	7507.709	7507.740	7507.760	7113.000	3110.000	5502.205		5501.675
600	625	400	12	7507.020	1 (pc(s).	7507.712	7507.740	7507.760	7113.000	3110.000	5502.205	7119.250	-
600	625	600	12	7507.120	1 (pc(s).	7507.712	7507.740	7507.760	7113.000	3110.000	5502.205		5501.675
600	758	400	15	7507.030	1 (pc(s).	7507.715	7507.740	7507.760	7113.000	3110.000	5502.205	7119.250	-
700	758	700	15	7507.200	1 (pc(s).	7507.715	7507.740	7507.760	7113.000	3110.000	5502.205		5501.675
700	892	700	18	7507.210	1 (pc(s).	7507.718	7507.740	7507.760	7113.000	3110.000	5502.205		5501.675
700	1025	700	21	7507.220	1 (pc(s).	7507.721	7507.740	7507.760	7113.000	3110.000	5502.205		5501.675

A wall or floor mounted enclosure for housing IT equipment used on Network Rail & London Underground projects.

Wall-mounted enclosures for London Underground & Network Rail Projects



Material:

- Wall and hinged part: Sheet steel, 1.5mm
- Viewing window: Single-pane safety glass, 3mm

Surface finish:

- Powder-coated

Colour:

- Wall and hinged part: RAL 7035
- Glazed door: RAL 7035/7015 (slate grey)

Protection category IP to IEC 60 529:

- IP55

Supply includes:

- Wall section with solid gland plate, top and bottom and mounting plate (supplied loose)
- Designer glazed door

Please note the product-specific scope of supply.

Approvals:

- cUL
- UL

Detailed drawings:

- Available on the internet

Applications:

- London Underground & Network Rail

IP rated “19” wall-mounted enclosure EL

Dimensions mm			Units U	Packs of	Model No. EL	Product-specific scope of supply					
W	H	D				Wall section: Gland plate, solid, top and bottom	Wall section: mounting plate supplied loose	Hinged part with two 482.6mm (19") mounting angles	Mini-comfort handle	Security lock 3524 E	Comfort handle and 2-point locking
600	212	373	3	1 pc(s).	2243.605	■	■	■	■	■	
600	212	473	3	1 pc(s).	2253.605	■	■	■	■	■	
600	345	373	6	1 pc(s).	2246.605	■	■	■	■	■	
600	345	473	6	1 pc(s).	2256.605	■	■	■	■	■	
600	478	373	9	1 pc(s).	2249.605	■	■	■	■	■	
600	478	473	9	1 pc(s).	2259.605	■	■	■	■	■	
600	612	373	12	1 pc(s).	2252.605	■	■	■	■	■	
600	612	473	12	1 pc(s).	2262.605	■	■	■	■	■	-
600	746	373	15	1 pc(s).	2255.605	■	■	■	■	■	-
600	746	473	15	1 pc(s).	2265.605	■	■	■	■	■	-
600	1012	373	21	1 pc(s).	2261.605	■	■	■	-	■	■
600	1012	473	21	1 pc(s).	2271.605	■	■	■	-	■	■

With mounting plate and mounting angles, static installation

A wall mounted enclosure with optimum accessibility due to it being hinged in 3 parts with a high IP rating to house IT equipment.

Used on Network Rail & London Underground projects.

Floor standing enclosures for London Underground & Network Rail Projects



Material:

- Enclosure frame, roof, rear panel and gland plates: Sheet steel, 1.5 mm thick
- Door: Sheet steel, 2.0 mm
- Mounting plate: Sheet steel, 3.0 mm

Surface finish:

- Enclosure frame: Dipcoat-primed
- Door, roof and rear panel: Dipcoat-primed, powder-coated on the outside, textured paint
- Mounting plate and gland plates: Zinc-plated

Protection category:

- IP 55 to IEC 60 529, complies with NEMA 12

Detailed drawings:

- Available on the internet

Colour:

- RAL 7035

Supply includes:

- Enclosure frame: with door(s),
- 3mm double-bit lock insert
- Mounting plate
- Gland plates
- Rear panel
- Roof plate
- 4 eyebolts

Approvals:

- UL
- cUL
- CSA
- TÜV
- Germanischer Lloyd
- Russian Maritime Register of Shipping
- Lloyds Register of Shipping
- Bureau Veritas

Applications:

- London Underground & Network Rail

Baying systems TS 8

Dimensions mm			Model No. TS	Door (s)	Weight (kg)	Side Panels	Base/plinth Front & Rear 100mm	Base/plinth sides 100mm	Base/plinth Front 200mm	Base/plinth sides 200mm
W	H	D								
1200	1600	500	8265.500	2	159,3	8165.235	8601.200	8601.050	8602.200	8602.050
800	1600	500	8865.500	1	103,0	8165.235	8601.800	8601.050	8602.800	8602.050
800	1800	400	8884.500	1	113,5	8184.235	8601.800	8601.040	8602.800	8602.040
1200	1800	400	8284.500	2	170,6	8184.235	8601.200	8601.040	8602.200	8602.040
600	1800	400	8684.500	1	91,3	8184.235	8601.600	8601.040	8602.600	8602.040
1000	1800	400	8080.500	2	140,0	8184.235	8601.000	8601.040	8602.000	8602.040
1000	1800	400	8084.500	1	136,4	8184.235	8601.000	8601.040	8602.000	8602.040
800	1800	500	8885.500	1	115,8	8185.235	8601.800	8601.050	8602.800	8602.050
1200	1800	500	8285.500	2	173,3	8185.235	8601.200	8601.050	8602.200	8602.050
600	1800	500	8685.500	1	93,8	8185.235	8601.600	8601.050	8602.600	8602.050
800	1800	600	8886.500	1	120,3	8186.235	8601.800	8601.060	8602.800	8602.060
1200	1800	600	8286.500	2	179,9	8186.235	8601.200	8601.060	8602.200	8602.060
800	2000	400	8804.500	1	124,0	8104.235	8601.800	8601.040	8602.800	8602.040
600	2000	400	8604.500	1	99,0	8104.235	8601.600	8601.040	8602.600	8602.040
1200	2000	400	8204.500	2	184,5	8104.235	8601.200	8601.040	8602.200	8602.040
1000	2000	400	8004.500	2	152,8	8104.235	8601.000	8601.040	8602.000	8602.040
800	2000	500	8805.500	1	126,3	8105.235	8601.800	8601.050	8602.800	8602.050
1200	2000	500	8205.500	2	190,6	8105.235	8601.200	8601.050	8602.200	8602.050
1000	2000	500	8005.500	2	157,1	8105.235	8601.000	8601.050	8602.000	8602.050
600	2000	500	8605.500	1	101,0	8105.235	8601.600	8601.050	8602.600	8602.050
800	2000	600	8806.500	1	130,5	8106.235	8601.800	8601.060	8602.800	8602.060
1200	2000	600	8206.500	2	194,6	8106.235	8601.200	8601.060	8602.200	8602.060
600	2000	600	8606.500	1	104,0	8106.235	8601.600	8601.060	8602.600	8602.060
1000	2000	600	8006.500	2	161,2	8106.235	8601.000	8601.060	8602.000	8602.060
800	2000	800	8808.500	1	137,0	8108.235	8601.800	8601.080	8602.800	8602.080
600	2000	800	8608.500	1	111,0	8108.235	8601.600	8601.080	8602.600	8602.080
1200	2000	800	8208.500	2	203,0	8108.235	8601.200	8601.080	8602.200	8602.080
1200	2200	600	8226.500	2	208,0	8126.235	8601.200	8601.060	8602.200	8602.060

Floor standing bayable enclosure made from sheet steel. Stainless steel versions available on request.

Used on a number of Network Rail & London Underground projects.

Can be installed with 19" rails to provide an alternative locking for high IP rated 19" equipment installation.

Floor standing Network Rail Telecommunications Rack



Material:

- Sheet steel

Surface finish:

- Enclosure frame: Dipcoat-primed
- Doors and roof: Dipcoat primed, powder-coated

Colour:

- Enclosure frame, doors and panels: RAL 7035

Detailed drawings:

- Available on the internet

Supply includes:

- TS 8 enclosure frame with doors, roof plate and side panels
- Vented split sheet steel door at the front and rear (vented surface area approx. 85% perforated), 180Deg hinges
- Lock front and rear: Comfort handle for semi-cylinders and security lock 3524 E
- Two 482.6mm (19") mounting sections front and rear, variably mounted on support strips with quick-release fasteners
- Spacers to raise the fan cover plate, for passive cooling (supplied loose)
- 50 multi-tooth screws M5, cage nuts M5, conductive (supplied loose)

Please observe the product specific scope of supply.

Baying system TS IT

Dimensions	Packs of	Type A	Type B	Type C	Type D	Type E	Type F	Type G
Width mm		600	600	600	600	600	600	600
Height mm		2000	2000	1600	2000	2200	2200	2200
Depth mm		600	800	600	600	600	800	600
Model No. TS IT	1	1053.617	1053.618	1053.620	1053.621	1053.622	1052.623	1052.624

Supply includes

Split vented doors front and rear		■	■	■	■	■	■	■
Vented side panels		■	■	■	■	■	■	■
Dual supply 12 way, 1U PDU, 6 x outputs per 100Amp supply* (Fuses order separately)**		■	■	■	■	■	■	■
19" rails front and rear		■	■	■	■	■	■	■
Levelling feet		■	■	■	■	■	■	■
Cable trunking to the front each side		■	■	■	■	■	■	■
Cable tray central each side		■	■	■	■	■	■	■
Wall retaining brackets		■	■	■	■	■	■	■
Earth bar		■	■	■	■	■	■	■
Battery shelf		-	-	-	■	-	-	■
1 string fiamm batteries (150Amp each)		-	-	-	■	-	-	■
Flatpack 2 Powercore SPD, 4 x 100Amp batt MCB, 2 x 100Amp Load MCB, Smartpack 1 controller, 3 x 2kW HE rectifiers		-	-	-	■	-	-	■

**Fuses to be ordered separately
choice of 2, 5, 10, 15, 20 & 30Amp

19" telecoms racks approved for Network Rail Telecom projects including DC distribution. Also available with -48V power supply units and batteries.

Floor standing enclosures for London Underground & Network Rail Projects



Material:

- Sheet steel
- Aluminium
- Glazed door: Single panes safety glass

Surface finish:

- Enclosure frame: Dipcoat-primed
- Doors and roof: Dipcoat-primed, powder-coated.

Colour:

- Enclosure frame and panels: RAL 7035
- Interior installation, vent grill at the front: RAL 9005

Approvals:

- UL
- cUL

Applications:

- London Underground & Network Rail

Supply includes:

- TS 8 enclosure frame with doors and roof plate
 - Aluminium sheet steel door at the front, vented (vented surface area approx. 85% perforated), 180° hinges
 - Lock front and rear: Comfort handle for semi-cylinders and security lock 3524 E
 - Two 482.6 mm (19") mounting sections front and rear, variably mounted on support strips with quick-release fasteners
 - Spacers to raise the fan cover plate, for passive cooling (supplied loose)
 - Connection accessories for potential equalisation with earthing point (supplied loose)
 - 50 multi-tooth screws M5, cage nuts M5, conductive (supplied loose)
- Please observe the product specific scope of supply.

“19 inch” enclosure TS IT

Dimensions mm			Units U	Packs of	Model No. DK	Product-specific scope of supply				
W	H	D				Roof plate, multi-piece, removable, for horizontal cable entry at the rear and covered cut-out for fan mounting plate	Sheet steel door at the rear, 180 deg hinges	Roof plate, multi-piece, removable with side cable entry in the depth and covered cut-out for fan mounting plate	Sheet steel door at the rear, vertically divided, 180 deg hinges	Sheet steel door at rear, vertically divided, vented (vented surface area approx. 85% perforated), 180 deg hinges
With glazed door, with 482.6mm (19") mounting angles										
600	1800	600	38	1 pc(s).	5527.120	■	-	-	■	-
600	1800	800	38	1 pc(s).	5528.120	■	■	-	-	-
800	1800	800	38	1 pc(s).	5505.120	■	■	-	-	-
600	2000	600	42	1 pc(s).	5529.120	-	■	■	-	-
600	2000	800	42	1 pc(s).	5530.120	■	■	-	-	-
600	2000	1000	42	1 pc(s).	5508.120	■	■	-	-	-
600	2000	1200	42	1pc(s).	5510.120	■	■	-	-	-
800	2000	600	42	1 pc(s).	5506.120	■	■	-	-	-
800	2000	800	42	1 pc(s).	5507.120	-	■	■	-	-
800	2000	1000	42	1 pc(s).	5509.120	-	-	■	■	-
800	2000	1200	42	1 pc(s).	5511.120	-	-	■	■	-
With vented door, with 482.6mm(19") mounting angles										
600	1800	600	38	1 pc(s).	5527.110	■	-	-	-	■
600	1800	800	38	1 pc(s).	5528.110	-	-	■	-	■
800	1800	800	38	1 pc(s).	5505.110	■	■	-	-	-
600	2000	600	42	1 pc(s).	5529.110	-	■	■	-	-
600	2000	800	42	1 pc(s).	5530.110	■	■	-	-	-
600	2000	1000	42	1 pc(s).	5508.110	■	■	-	-	-
600	2000	1200	42	1 pc(s).	5510.110	■	■	-	-	-
800	2000	600	42	1 pc(s).	5506.110	■	■	-	-	-
800	2000	800	42	1 pc(s).	5507.110	-	■	■	-	-
800	2000	1000	42	1 pc(s).	5509.110	-	■	■	-	-
800	2000	1200	42	1 pc(s).	5511.110	-	■	■	-	-

A floor standing, bayable 19" network/server rack for IT equipment.

Available in vented or glazed door options.

Used on Network Rail & London Underground projects.

Outdoor enclosures for Network Rail Projects



Material:

- Enclosure, roof and side panel: Aluminium AIMg3
- Base/plinth: Aluminium AIMg3

Protection category:

- IP 55 to IEC 60 529
- Complies with NEMA 3R

Surface finish:

- Powder coated
- UV resistant pure polyester

Colour:

- RAL 7035

General Description:

- Double –walled outdoor enclosure with base/plinth and rain canopy projecting on all sides. Side panels doubled up to the outside, door and rear panel to the inside.
- Photo shows a configuration example with equipment not included within the scope of supply

Detailed drawings:

- Available on the internet.

Applications:

- Network Rail

CS Outdoor enclosures – PADS approved

	Packs of	Type A	Type B
Width mm*		600	1200
Height mm*		1200	1200
Depth mm*		600	600
Model No. CS	1	9751.009	9752.009
Supply includes			
Enclosure		9751.125	9752.125
Single door, front & rear		■	-
Double door front & rear		-	■
19" Rails front & rear (24 U usable space)		■	-
2 x 19" Rails front & rear (48 U usable space)		-	■
Louvered side panles		■	■
Fan and filter L/H panel		3340.230	3340.230
Filter R/H panel, high level		3326.207	3326.207
Thermostat		3110.000	3110.000
Heater 800W		3105.200	3105.200
Accessories			
Door switch	1		
Light	1		
Concrete base plinth	1	9765.083	9765.087
Equipment shelves	1		

*Alternative sizes available on request for projects specification - Please ask for more details.

PADS approved enclosure designed specifically for outdoor environments. Used on a number of Network Rail projects for electrification, signalling power and telecommunications.

Outdoor enclosures for Network Rail Projects



Outdoor enclosures for wall or pole mounting. Enclosure-within-an-enclosure concept, outer enclosure with cut-out at the bottom and integrated louvres on the rear panel and side panels for ventilation.

Material:

- Enclosure: Aluminium AlMg3
- Mounting plate:
Sheet steel, zinc-plated

Surface finish:

- Powder-coated UV-resistant pure polyester
- Mounting plate: Zinc plated

Colour:

- RAL 7035

Protection category:

- IP 55 to IEC 60 529

Supply includes:

Double-walled outdoor enclosure, fully preconfigured:

- Inner enclosure with mounting plate, gland plate and security lock (CS 9791.045 with 2 security locks
- Mounting bracket for thermostat or hygostat
- Outer enclosure with designer cover and security lock 3524 E
- 2 C rails on the rear panel

Detailed drawings:

- Available on the internet

Applications:

- Network Rail

CS wall & pole mounted enclosure – Double walled

Outer enclosure					
Width (B1) mm	Packs of	370	420	530	630
Height (H1) mm		522	560	700	780
Depth (T1) mm		210	210	265	380
Inner enclosure					
Width (B2) mm		300	350	460	580
Height (H2) mm		400	440	565	580
Depth (T2) mm		170	170	220	333
Clearance width mm		280	330	440	560
Clearance height mm		380	420	545	560
Clearance depth mm		145	145	195	308
Mounting plate width (B3) mm		270	320	430	550
Mounting plate height (H3) mm		380	410	535	550
Model No. CS	1	9791.015	9791.025	9791.035	9791.045
Accessories					
Wall mounting bracket	4	9765.120	9765.120	9765.120	9765.120
Pole clamp	1 set	2584.000	2584.000	2584.000	2584.000
Enclosure heaters	1	3105.330	3105.330	3105.330	3105.330
Enclosure internal thermostat	1	3110.000	3110.000	3110.000	3110.000
Hygostat	1	3118.000	3118.000	3118.000	3118.000
Socket	2	2506.100	2506.100	2506.100	2506.100
LED system light	1	4140.810	4140.810	4140.810	4140.810
LED connection cable	1	4315.800	4315.800	4315.800	4315.800
Adaptor power pack	1	4315.860	4315.860	4315.860	4315.860

Wall & pole mounted enclosure designed specifically for the outdoor environment.

Used on a number of Network Rail projects.

Enclosure Cooling & Heating for London Underground & Network Rail Projects



Colour:

- RAL 7035

Supply includes:

- Complete unit ready to install, including filter mat

Approvals:

- Available on the internet.

Detailed drawings:

- Available on the internet.

Performance diagrams:

- Available on the internet.

Applications:

- London Underground & Network Rail

Note:

- For energy efficient operation of the fan-and-filter units, we recommend using the enclosure internal thermostat, 3110.000, or the speed control, 3120.200 (AC control unit)

Approvals:

- UR
- C-UR
- CSA

TopTherm fan-and-filter units

Model No. SK	Outlet filter model no.	Fan-and-filter unit dimensions W x H x D (mm)	Rated operating voltage (V, ~, Hz)	Air throughput (m³/h)			Protection category to IEC 60 529	IP Outdoor double skin
				Unimpeded	1 x Outlet filter	2 x Outlet filter		
3237.100	3237.200	148.5 x 148.5 x 16	230, 1, 50/60	20 / 25	15/18	-	IP54	IP56
3238.100	3238.200	148.5 x 148.5 x 16	230, 1, 50/60	55/66	43/50	46/56	IP54	IP56
3239.100	3239.200	204 x 204 x 25	230, 1, 50/60	105/120	87/100	93/108	IP54	IP56
3240.100	3240.200	255 x 255 x 25	230, 1, 50/60	180/160	138/121	165/140	IP54	IP56
3241.100	3241.200	255 x 255 x 25	230, 1, 50/60	230/250	183/205	203/230	IP54	IP56
3243.100	3243.200	323 x 323 x 25	230, 1, 50/60	550/600	465/510	508/548	IP54	IP56
3244.100	3243.200	323 x 323 x 25	230, 1, 50/60	700/770	544/587	614/662	IP54	IP56

Alternative voltages available, 115V & 24V DC

A full range of enclosure cooling products are available from rack and roof mounted fans, heat exchangers and air conditioning units for indoor and outdoor applications.

Hygrostat

The hygrostat switches on the heater and/or fan when a pre-set relative humidity in the enclosure is exceeded. In this way, the relative humidity is reduced and condensation on assemblies or electronic components is avoided.

Rated operating voltage V, ~	Model No.
24 - 230, 1~ 12 - 75 (DC)	3118.000



Enclosure internal thermostat

Particularly suitable for controlling fan-and-filter units, heaters and heat exchangers, this thermostat can also be used as a signal generator for monitoring the enclosure internal temperature.

Rated operating voltage V, ~	Model No.
24 - 230, 115, 1~ 24 - 60 (DC)	3110.000



Speed Control

Temperature-dependent speed control for fan-and-filter units, air/air heat exchangers, rack-mounted fans and tagential fans to reduce noise and save energy in part-load operation

Rated operating voltage V, ~	Model No.
100 - 230.	3120.200



Enclosure heaters for London Underground & Network Rail Projects



Supply includes:

- PTC heater
- Quick-connection terminal
- Assembly parts

Approvals:

- UR
- C-UR
- CSA
- VDE

Technical details:

- Available on the internet.

Applications:

- London Underground & Network Rail

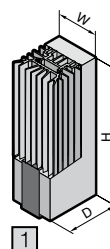
Note:

- For precise temperature control inside the enclosure, we recommend using the enclosure internal thermostat, 3110.000, or the digital enclosure internal temperature display and thermostat, 3114.200
- In order to prevent condensation forming on assemblies, a hydrostat, 3118.000, is recommended to regulate heating
- In larger enclosures, even heat distribution is best achieved by installing several low-output heaters
- The installation of heaters is generally advisable to prevent condensation

Enclosure heaters

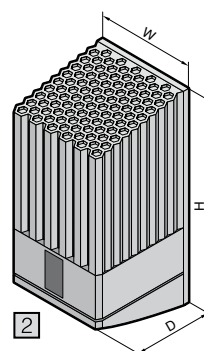
Model No.	Rated operating voltage (V, ~, Hz)	Dimensions W x H x D (mm)	Continuous thermal output at ambient temp of 10 °C (W)
3105.310	110-240, 1, 50/60	45 x 120 x 46	8 – 10
3105.320			18 – 20
3105.330		64 x 155 x 56	23 – 30
3105.340			49 – 50
3105.350		64 x 230 x 56	63 – 75
3105.360		90 x 165 x 75	86 – 100
3105.370		90 x 180 x 75	130 – 150

1 Without fan, continuous thermal output 10-150 W



Model No.	Rated operating voltage (V, ~, Hz)	Dimensions W x H x D (mm)	Continuous thermal output at ambient temp of 10 °C (W)
3105.380	230, 1, 50/60	103 x 200 x 103	250 / 265
3105.390	230, 1, 50/60		400 / 415
3105.400	230, 1, 50/60		800 / 870

2 With fan, continuous thermal output 250-800 W



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