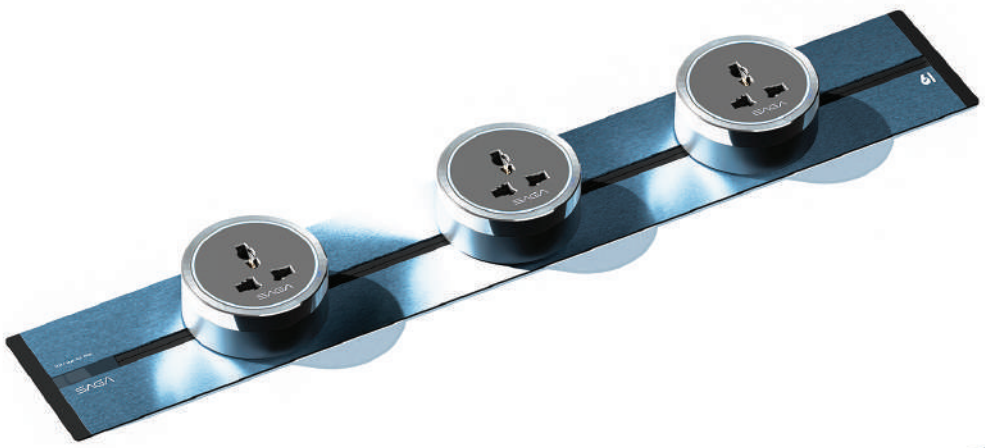
SAGA by 61

TECHNICAL DATA SHEET

R SERIES

RECESSED POWER TRACK



www.61saga.com

AUSTRALIAN ORIGIN. GLOBAL PRECISION.

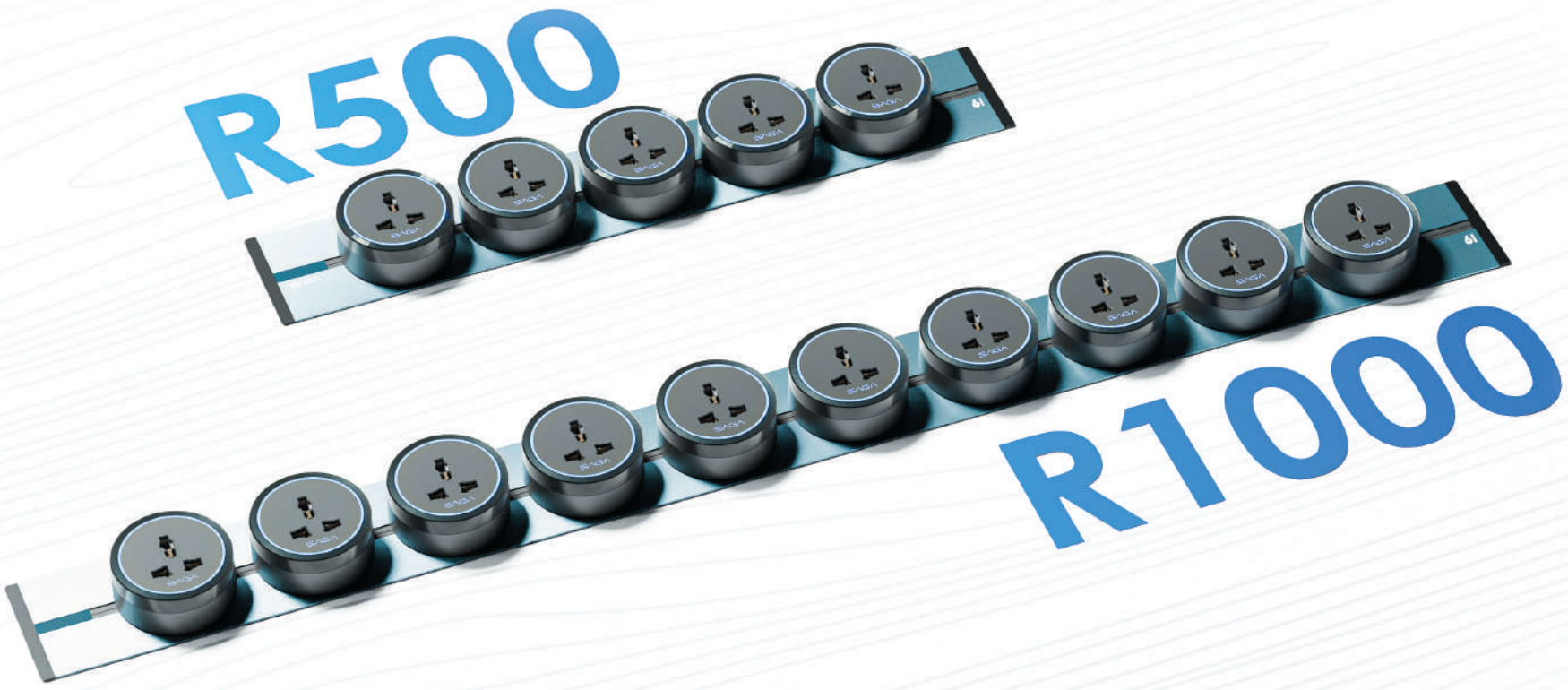
The R-Series recessed power tracks are engineered for seamless integration into workstations, meeting tables, hospitality counters, and collaborative spaces. The same Common Core Assembly — high-conductivity copper busbars within fire-retardant rubber insulation inside an anodized aluminium body — powers both the **R500** and **R1000**.

Document Reference
SAGA-DS-RSERIES-Rev1.0

DWG Reference
R-SERIES-001 (Scale 1:5, A3)

Standards
IEC 60884 | IS 1293 | IS 732
RoHS 2011/65/EU | IP20

Combined Specification Sheet — R500 & R1000



01 PRODUCT IDENTIFICATION

PARAMETER	R500	R1000
Product Name	R500 Recessed Power Track	R1000 Recessed Power Track
Model / Part Number	R500-500MM	R1000-1000MM
Series	R Series (Recessed) — SAGA by the61	R Series (Recessed) — SAGA by the61
Generation	2nd Generation	2nd Generation
Category	Modular Flush-Recessed Power Track	Modular Flush-Recessed Power Track
Brand	SAGA by the61	SAGA by the61
Website	www.61saga.com	www.61saga.com
Origin	China (Designed by the61, Australia)	China (Designed by the61, Australia)
Target Markets	India, GCC, SE Asia, Australia, Global	India, GCC, SE Asia, Australia, Global
Applications	Workstations, Meeting Tables, Hotel Counters, Co-working Spaces	Workstations, Meeting Tables, Conference Rooms, Hospitality, Data Centres

02 ELECTRICAL SPECIFICATIONS

250V	32A	IP20
Rated Voltage (AC)	Rated Current	Protection Rating

PARAMETER	R500	R1000
Rated Voltage	250V AC (Single Phase)	250V AC (Single Phase)
Frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Rated Current	32 A	32 A
Rated Power Capacity	8,000 W (8 kW) Max	8,000 W (8 kW) Max
Voltage Range (Operating)	110V~ / 220–250V~	110V~ / 220–250V~
Short-Circuit Current	MAX 32 A	MAX 32 A
Breaking Capacity	MAX 32 A	MAX 32 A
Overcurrent Protection	NOT built-in — upstream MCB/RCCB required	NOT built-in — upstream MCB/RCCB required
Insulation Class	Class I (earth mandatory)	Class I (earth mandatory)
Dielectric Strength	≥ 2,000V AC / 1 min	≥ 2,000V AC / 1 min
Insulation Resistance	≥ 5 MΩ @ 500V DC	≥ 5 MΩ @ 500V DC
Leakage Current	< 0.5 mA	< 0.5 mA

- No built-in overcurrent protection. A 32A Type B/C MCB + 30mA RCCB must be installed upstream.
- Total connected load must NOT exceed 8,000W / 32A at any time.
- Earth continuity is mandatory. Unearthed installation is a life-safety hazard.

03 MECHANICAL & PHYSICAL SPECIFICATIONS

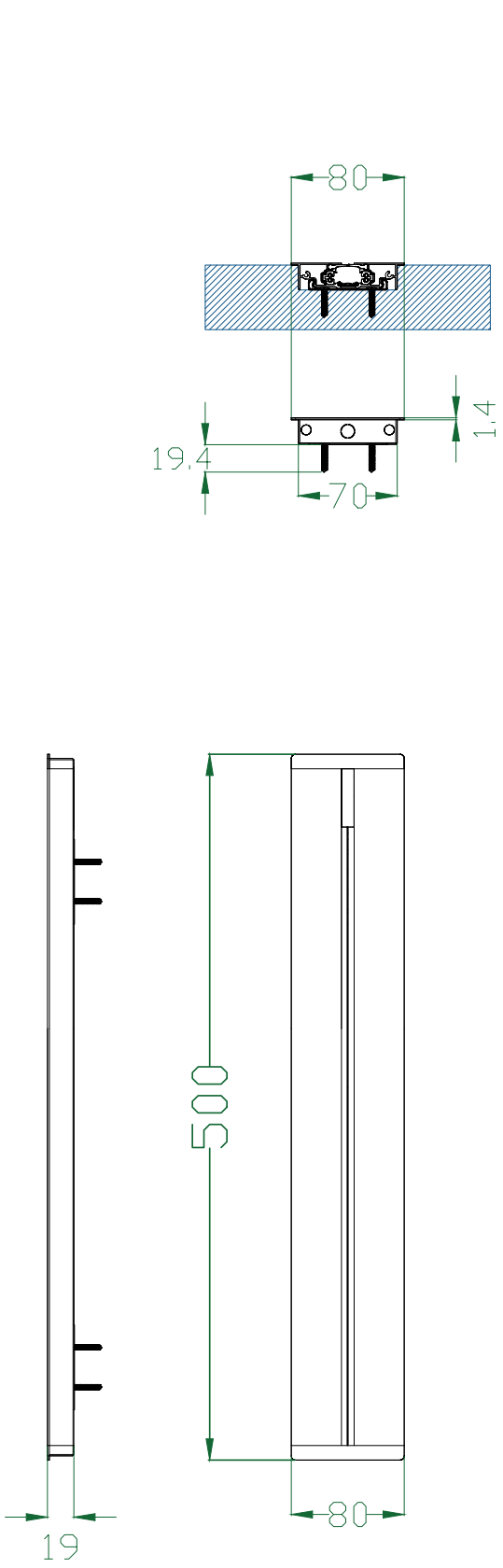
500 / 1000 mm	80 × 19 mm	0.6 / 1.2 kg
Track Length	Cross-Section (W × H)	Product Weight

PARAMETER	R500	R1000
Track Length (Overall)	500 mm	1,000 mm
Track Width	80 mm	80 mm
Track Height (Body)	19 mm (cross-section depth)	19 mm (cross-section depth)
Product Weight	0.6 kg (body only)	1.2 kg (body only)
Body Profile	Extruded aluminium — uniform rectangular	Extruded aluminium — uniform rectangular

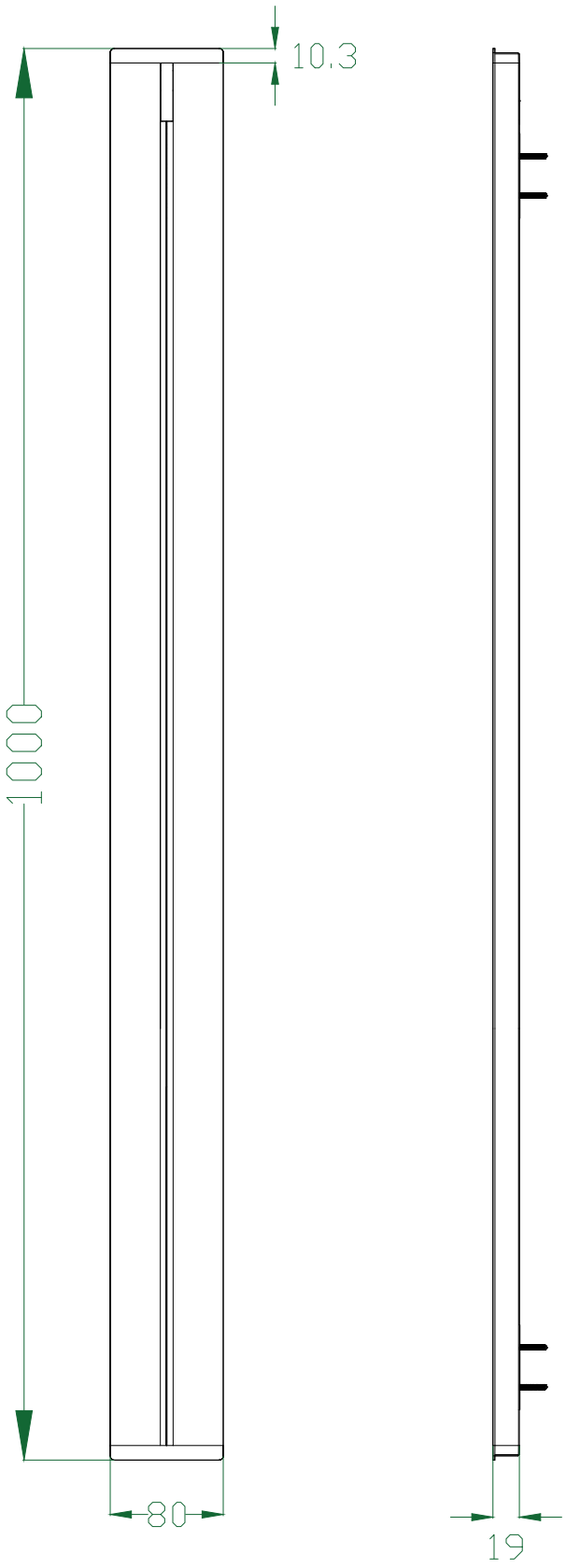
PARAMETER	R500	R1000
Body Material	Anodized Aluminium Alloy 6063-T5	Anodized Aluminium Alloy 6063-T5
Surface Finish	Hard-anodized Silver / Space Grey / Custom RAL	Hard-anodized Silver / Space Grey / Custom RAL
End Caps	Snap-fit polymer — UL 94 V-0	Snap-fit polymer — UL 94 V-0
Busbar Material	High-conductivity electrolytic copper	High-conductivity electrolytic copper
Busbar Insulation	Fire-retardant rubber / XLPE	Fire-retardant rubber / XLPE
Adapter Capacity	Up to 5 adapters	Up to 10 adapters
IP Rating	IP20	IP20
Probe Test	1mm probe test passed	1mm probe test passed

3.1 Technical Drawing Reference — From DWG R-SERIES-001 (Scale 1:5, A3)

DRAWING DIMENSION	VALUE
Overall Length	R500: 500 mm | R1000: 1000 mm (as dimensioned on drawing)
Body Width (Top)	80 mm (both models — confirmed on cross-section view)
Body Height (Depth)	19 mm (cross-section shown at bottom of drawing)
Slot Opening Depth	10.3 mm (dimension shown on section view, DWG R-SERIES-001)
Inner Track Width	70 mm (dimension shown on cross-section plan view)
Mounting Height (flange)	19.4 mm (shown on cross-section, busbar assembly height)
Flange Lip Depth	14 mm (dimension shown on plan cross-section view)
Drawing Status	For Approval | Created by: S. GOUD | DWG No. R1000-001 | Rev A
Scale / Units	1:5 / All dimensions in millimetres. Do not scale drawing.



R500



R1000

All dimensions are in millimetres. Do not scale drawing.

Title: **R-series Recessed Power Track**	Created by: **S. GOUD**			Size: **A3**
Document type: **Technical Drawing**	DWG No.: **R-SERIES-001**			
Document status: **For Approval**	Scale: **1:5**	Units: **mm**	Revision: **A**	

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04 CUTOUT AND MOUNTING DIMENSIONS

PARAMETER	R500	R1000
Mounting Cutout (L × W × D)	495 mm × 71 mm × 18 mm	995 mm × 71 mm × 18 mm
Measurement Point 1 — Lip Depth	5.8 mm + 1 mm tolerance	5.8 mm + 1 mm tolerance
Measurement Point 2 — Lip to Flange	≥10.3 mm + 5 mm	≥ 10.3 mm + 5 mm
Measurement Point 3 — Inner Length	470 mm ± 4 mm	970 mm ± 4 mm
Measurement Point 4 — Outer Flange Span	495 mm ± 2 mm	995 mm ± 2 mm
Measurement Point 5 — Slot Width	52.2 mm + 2 mm	52.2 mm + 2 mm
Table Top Min. Thickness	18 mm	18 mm
Mounting Method	M4/M5 screws + optional foam tape	M4/M5 screws + optional foam tape
Fastener Spacing	3 points min: both ends + centre	3 points min: both ends + centre
Flush Depth	Flush with or ≤1mm proud of surface	Flush with or ≤ 1mm proud of surface

- Complete concealed installation NOT recommended — flange must remain accessible for adapter insertion.
- For calculation method: Inner length = Track length minus 26mm; Outer span = Track length minus 3mm.
- Cutout tolerances apply per measurement points — always test-fit before final installation.

05 WIRING & CABLE REQUIREMENTS (FOR ELECTRICIANS)

5.1 Wiring Warning — Minimum Cable Cross-Section vs. Load

CABLE SIZE	MAX LOAD POWER	MAX CURRENT	USAGE GUIDANCE
1.5 mm² copper	4,000 W	16 A	Light duty / short runs / 2-adapter max
2.5 mm² copper	6,250 W	25 A	Standard office — up to 6 adapters
4.0 mm² copper	**8,000 W**	**32 A**	**RECOMMENDED — full 32A rated capacity**
6.0 mm² copper	8,000 W	32 A	SAGA factory supply wire spec (pre-wired tail)

5.2 Cable Type & Routing Requirements

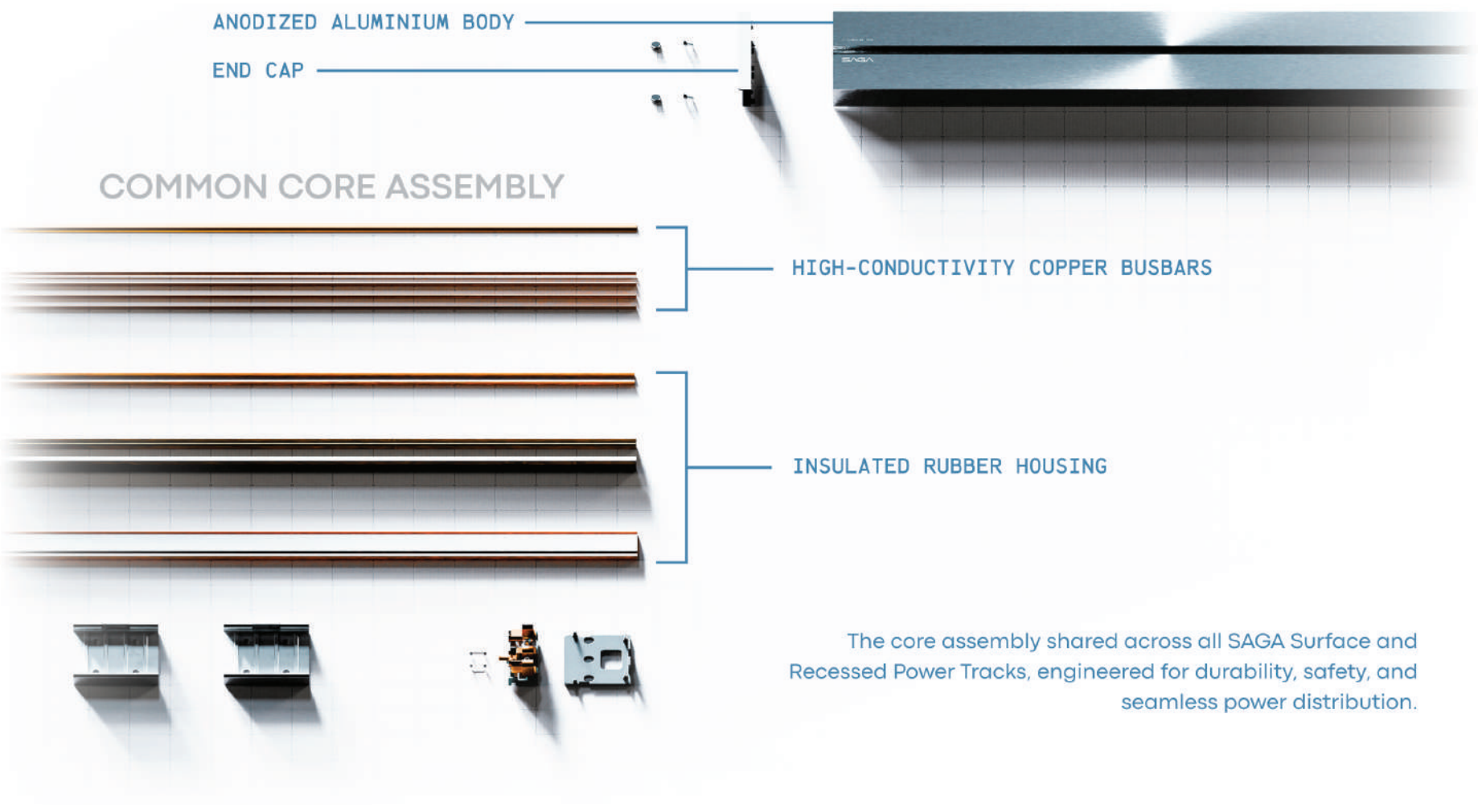
WIRING PARAMETER	SPECIFICATION
Conductor Material	Electrolytic copper only — aluminium conductors strictly prohibited
Cable Type	PVC / XLPE insulated, FRLS (Flame Retardant Low Smoke) — IS 694 / IS 1554
SAGA Factory Wire Gauge	6 mm² (pre-wired supply tail within track body)

WIRING PARAMETER	SPECIFICATION
Conductor Material	Electrolytic copper only — aluminium conductors strictly prohibited
Cable Type	PVC / XLPE insulated, FRLS (Flame Retardant Low Smoke) — IS 694 / IS 1554
SAGA Factory Wire Gauge	6 mm² (pre-wired supply tail within track body)
Colour Coding	Phase: Red/Brown | Neutral: Black/Blue | Earth: Green-Yellow (IS 732)
Conduit / Routing	Metal conduit or trunking inside furniture; min. IP2X separation from other services
Cable Bending Radius	Min. 6× cable OD for PVC; 8 × for XLPE — never kink or crush
Max. Voltage Drop	≤ 3% at full load per IS 732 / IEC 60364-5-52
Terminal Torque	3–4 Nm for 6 mm² terminals — use calibrated torque screwdriver
Strain Relief	Gland or bushing mandatory at track cable entry point
Earth Continuity	Verify < 0.1 Ω between track body and MDB earth bar after installation

- NEVER use aluminium conductors — contact corrosion with copper busbars causes heat buildup and fire risk.
- ALWAYS use FRLS cable inside concealed spaces and furniture per NBC 2016 Part 8.
- Earth continuity is mandatory. Unearthed installation is a life-safety hazard.
- Installation must be performed by a licensed electrical contractor per IE Rules 1956.

06 CONSTRUCTION, MATERIALS & ARCHITECTURE

6.1 Common Core Assembly — Shared Across R500 & R1000



The core assembly shared across all SAGA Surface and Recessed Power Tracks, engineered for durability, safety, and seamless power distribution.

COMPONENT	MATERIAL / SPECIFICATION
Track Body	Extruded Aluminium Alloy 6063-T5 — anodized, fire-retardant housing
Busbars	High-conductivity electrolytic copper ≥ 99.9% purity — tin-plated contacts
Busbar Insulation	Flame-retardant rubber / XLPE continuous insulation — full busbar length
End Caps	UL 94 V-0 flame-retardant thermoplastic polymer — snap-fit
Adapter Socket Body	PC+ABS blended thermoplastic — UL 94 V-0 rated
Contact Springs	Phosphor bronze (tin/nickel plated) — rated ≥ 10,000 insertion cycles
Mounting Hardware	Stainless steel M4/M5 fasteners — corrosion resistant
Assembly Note	The Core Assembly is identical across all SAGA S-Series (Surface) and R-Series (Recessed) tracks — same busbars, same insulation, same adapters

6.2 Compliance & Environmental

PARAMETER	VALUE / REQUIREMENT
RoHS Compliance	Yes — EU RoHS Directive 2011/65/EU (RoHS 2) — all materials
REACH Compliance	Yes — no SVHC above 0.1% threshold
Halogen-Free Option	LSZH grade insulation available on request (MOQ applies)
Flammability	UL 94 V-0 — all polymer components
Operating Temperature	-20°C to +45°C
Storage Temperature	-30°C to +70°C (uninstalled, original packaging)
Operating Humidity	≤ 90% RH non-condensing
IP Rating	IP20 — finger-safe, protected against solids >12mm
Pollution Degree	Pollution Degree 2 (IEC 60664-1)
Overvoltage Category	Category II (IEC 60664-1)
Service Life	≥ 15 years under normal conditions; ≥ 10,000 adapter insertion cycles

07 SAFETY FEATURES & PROTECTION SYSTEMS

SAFETY FEATURE	DESCRIPTION
Touch-Safe Design	1mm probe test passed — live busbars inaccessible without SAGA adapter fitted
Protective Earthing	Aluminium body bonded to PE; all adapters earth-bonded via track contact
Fire Retardancy	Insulator housing + end caps: UL 94 V-0; aluminium body = passive heatsink
Short-Circuit Withstand	MAX 32A — upstream 10kA MCB provides fault clearance
No Exposed Live Parts	All copper busbars fully enclosed in insulated rubber housing
Child Safety	1mm probe compliance — suitable for offices and semi-public spaces

Adapter Lock	Quarter-turn positive lock — cannot detach under load accidentally
Overload Protection	Upstream MCB 32A Type B/C mandatory — not built into track body
RCD/RCCB Protection	30mA RCCB upstream mandatory for personal protection per IS 3043
Surge Protection	Upstream Type 2 SPD at MDB strongly recommended per IS 3043

08 INSTALLATION GUIDELINES

8.1 Pre-Installation Checklist

- ✓ Verify surface thickness ≥ 18mm and material suitable for routing (MDF, plywood, solid wood, metal).
- ✓ Mark cutout: 495×71mm (R500) or 995×71mm (R1000). Use a router template jig for accuracy.
- ✓ Route supply cable through furniture leg or cable duct — 4mm² min., FRLS, metal conduit.
- ✓ Confirm distribution board has spare 32A Type B MCB + 30mA RCCB.
- ✓ Verify earthing continuity from MDB to installation point (≤ Ω by electrician).
- ✓ Obtain local electrical work permit if required — mandatory for commercial installations.

8.2 Step-by-Step Fixing Procedure

Step 1 — Mark	Mark cutout rectangle with centre reference lines.
Step 2 — Cut	Router or jigsaw. Smooth all edges; no burrs that could damage cable insulation.
Step 3 — Test Fit	Test-fit track before wiring. Flange must sit flush; shim if required.
Step 4 — Cable	Pass supply tail through entry. Fit strain-relief gland / bushing.
Step 5 — Connect	Phase, Neutral, Earth to correct terminals per colour code. Torque 3–4 Nm.
Step 6 — Fix	Secure with M4/M5 screws: both ends + 1 centre (minimum 3 points).
Step 7 — Test	Earth continuity (<0.1Ω). IR test (>5MΩ @ 500V DC). Power-on test.
Step 8 — Certify	Licensed electrician signs installation certificate before energisation.

- Installation by licensed/registered electrical contractor only — IE Rules 1956.
- India: IS 732, IS 3043, NBC 2016 Part 8. GCC: IEC 60364, DEWA/SEC/KAHRAMAA.
- Always isolate supply at MCB before inserting or removing adapters.

09 ADAPTER & MODULE COMPATIBILITY

PARAMETER	R500	R1000
Adapter System	Proprietary SAGA twist-lock — quarter-turn engagement	Proprietary SAGA twist-lock — quarter-turn engagement
Adapter Positions	Up to 5 positions (100mm centres)	Up to 10 positions (100mm centres)
Rated Current / Adapter	Up to 16A per adapter	Up to 16A per adapter
Available Sockets	Type C/G/I/D/M, Universal, USB-A, USB-C PD, HDMI, CAT6, Wireless Charging, Blank	Type C/G/I/D/M, Universal, USB-A, USB-C PD, HDMI, CAT6, Wireless Charging, Blank
Hot-Swap	De-energise recommended; safe by design	De-energise recommended; safe by design
Cross-Compatibility	All SAGA adapters compatible (same Core Assembly as S-Series)	All SAGA adapters compatible (same Core Assembly as S-Series)
Custom / OEM Adapters	Available on request	Available on request

10 STANDARDS, CERTIFICATIONS & TESTING PARAMETERS

10.1 Applicable Standards (Same for Both Models)

STANDARD / REGULATION	DESCRIPTION
IEC 60884-1	Plugs and socket-outlets — General requirements
IEC 60439-1	Low-voltage controlgear assemblies — busbar reference
IEC 60664-1	Insulation coordination — Pollution Degree 2, OVC II
IEC 60529	IP Code — IP20 classification
IEC 60068-2-6	Environmental testing — Vibration (sinusoidal)
IS 1293:2019	Plugs and socket-outlets — Indian standard (BIS)
IS 694:2010	PVC insulated cables
IS 732:2019	Code of Practice for Electrical Wiring Installations
IS 3043:2018	Code of Practice for Earthing
NBC 2016 Part 8	National Building Code — Electrical Installations
IE Rules 1956	Indian Electricity Rules — statutory compliance
RoHS 2011/65/EU	Restriction of Hazardous Substances — full compliance
REACH SVHC	No Substances of Very High Concern above 0.1%

10.2 Certification Test Parameters

TEST PARAMETER	PASS CRITERION / METHOD
Dielectric Strength	2,000V AC / 1 min — no breakdown between live parts and earth
Insulation Resistance	≥ 5 MΩ @ 500V DC (megger) between live conductors and earth
Earth Continuity	< 0.1 Ω between track body and PE terminal
1mm Probe Test	No contact with live parts through slot — PASS required
Current Carrying Capacity	32A continuous — temperature rise ≤ 45K above 25°C ambient
Short-Circuit Withstand	MAX 32A — no damage to busbars or insulation
Thermal Cycling	IEC 60068-2-14 — -20°C to +45°C cycling
Flammability (Polymers)	UL 94 V-0 for all non-metallic components
Vibration	IEC 60068-2-6 — sinusoidal 10–500 Hz
Contact Resistance	<10 mΩ at adapter–busbar interface at rated current
Insertion / Withdrawal	≥10,000 cycles on adapter contacts without degradation
RoHS Material Analysis	XRF / ICP testing: Pb, Cd, Cr6+, Hg, PBB, PBDE
Salt Spray (optional)	IEC 60068-2-11 — 96hr for anodized aluminium

10.3 Government Tender Specification Clause

"Modular Flush-Recessed Electrical Power Track — R500 (500mm) or R1000 (1000mm) as specified. Aluminium alloy body, hard-anodized finish; high-conductivity copper busbars with fire-retardant insulation; rated 250V AC single phase / 32A / 8,000W; IP20; operating temperature -20°C to +45°C; UL 94 V-0 polymer components; 1mm probe test compliant. Modular adapter system accepting min. Type I (India), Type C (Euro), USB-A, USB-C socket modules. Compliant with IEC 60884, IS 1293:2019, IS 732:2019, IS 3043:2018, RoHS 2011/65/EU. Brand: SAGA by the61 (Model R500 or R1000) or approved technical equal.**"**

11 ORDERING, MAINTENANCE & LEGAL

11.1 Ordering Information

PARAMETER	R500	R1000
Standard Length	500 mm	1,000 mm
Other Lengths	Custom on request	Custom on request
Standard Finishes	Silver Anodized | Space Grey | Matte Black	Silver Anodized | Space Grey | Matte Black
Custom Options	Custom RAL / Brushed / Sandblasted — MOQ	Custom RAL / Brushed / Sandblasted — MOQ
Documentation	Product Sheet, Install Guide, RoHS Cert, REACH Declaration	Product Sheet, Install Guide, RoHS Cert, REACH Declaration
Tender Contact	www.61saga.com — specify qty, finish, socket mix, project	www.61saga.com — specify qty, finish, socket mix, project

11.2 Maintenance & Troubleshooting

TASK / FAULT	ACTION
Routine Cleaning	Damp cloth on anodized surface. No abrasive cleaners or solvents on slot.
Annual Tests	Earth continuity (<0.1 Ω) + IR test (≥ 5MΩ @ 500V DC) — commercial installs.
Adapter Inspection	Check contacts annually; replace adapter if contact resistance >10mΩ
Busbar Inspection	Check insulation rubber at 2-year intervals for cracking; replace if damaged.
Fault — No Power	Check MCB/RCCB. Verify supply cable. Check adapter seating in slot.
Fault — MCB Trips	Overload — reduce connected load. Ensure total ≤ 8,000W / 32A.
Fault — RCCB Trips	Earth leakage — inspect cables and adapters. Do NOT bypass RCCB.
Warranty	Contact SAGA: www.61saga.com for warranty terms and claims.

11.3 Legal Notices & Disclaimers

Qualified Personnel Only: Installation and testing must be performed by licensed/registered electrical contractors only. Unauthorised installation voids warranty and may be a statutory offence under IE Act 2003.

Specification Changes: Specifications subject to change without notice. Always obtain latest revision from www.61saga.com before specifying in a tender or procurement document.

No Liability for Misuse: SAGA by the61 accepts no liability for damage or injury arising from improper installation, overloading, use of non-SAGA adapters, or failure to follow these specifications.

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