

passion for connections



Building Technology





Sustainability: Third Generation

We are an independent, family-run company based in Germany – for over 90 years. Our success is based on sustainable performance, technical solution competence - and our "passion for connections".

With a track record of agile expertise, our products and systems solutions support an industrial environment - worldwide. We engineer and produce connectors and contact systems, electromechanical elements and mechatronic components of outstanding quality for your individual technical application. Our concentration on Automotive, Building Technology, Home Appliances and Communication Technology generates a high level of specialized user knowledge for your benefit.

DIN EN ISO 9001

IATF 16949

DIN EN ISO 50001

DIN EN ISO 14001



Our building technology experts



ARISTON BAXI **BOSCH** burkert **P**DAIKIN **D** Demir Döküm dormakaba EbV alil/all EMERSON GRÄSSLIN GIORDANO CONTROLS HEXIS **OIMMERGAS** Johnson Controls protherm 🏟 RESOL **SAUTER** SENERTEC somfy **STIEBEL ELTRON** VIESMANN () warmhaus WOLF

ATAG Ubaymak вранта BUBENDORFF CAREL Danfoss DUNGS Ecoflam elm.leblanc froling 🌑 GRUNDEOS X TA HEIMEIER Honeywell INTERGAS OCHSNER IR remeha RIELLO SCHELLENBERG SIEMENS SSS SIEDLE TEM **Waillant** -weishaupt-WORCESTER



Competence in Providing Solutions [connecting the world of tomorrow]

R&D: Value Creating Innovation

The right idea, a neat construction, fully-equipped laboratories and precise system measurements are the primary steps in our developing projects. With state-of-the-art methods and technologies, we mobilize our established development expertise and our passion for feasibility for your product. It is not only about the creation of unique quality products. It is also about finding an answer for challenges where others fail to find a solution.

With our engineering-based-on-partnership maxim we manifest detailed and integrated made-tomeasure solutions for you. How? By applying our comprehensive Building Technology know-how and pairing it with our electrical and electromechanical engineering profession.

From a first talk about technology to the development, the design and the construction of a preproduction prototype, we are a strong and reliable development partner. And we use creative thinking to turn even individual design and product requests into prime "Made by Lumberg" development quality at our R&D center.

Lighting Installation Communication Security Doors Drives Gates Elevators

Ventilation

Escalators





Heating



Air Control





Applications [Heating · Ventilation · Air Control]

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Material: Glow Wire Resistant For years the HVAC industry has been striving for the highest energy efficiency and for alternative concepts. Recently, the heat pump, whose CO₂ savings make it climate-friendly and future-proof, has come to the fore, as the technology clearly helps to reduce energy costs.

Whether heat pumps, solar thermal systems, photovoltaics, combined heat and power, wood pellet or fuel cell heating – our connectors are well-established in sophisticated solutions.

We can differentiate between markets. Asia calls for different standards compared to Europe, while European standards differ from those in America. Are V0 or GWT only on your plastics agenda, for example? We can offer both – and more, precisionmade to match your market and for your very requirements.

- RAST connectors for direct and indirect mating from 1 to 27 poles as standard range
- Foolproof connection with RAST keying, pitch 7.5, 5, 2.5 and brand new in 1.5, for currents from 1 A to 25 A
- Optional color coding for easy installation
- Tab headers and socket boards according to RAST 5 standard allow customized configurations, with neutral and protective conductor bridges in IDT
- SmartSKEDD is a worldwide unique reversible direct connector for any position on the PCB.

Applications [Communication · Security · Lighting · Installation]

Quality: No Compromises Today's modern building technology is becoming more and more intricate, which requires evergrowing expertise about the individual building technology segments. From security and communication technology with control and feedback control, measurement, telecommunications and computer technology, to computer engineering – all are clearly advancing. Our offer for a broad spectrum of signal to high currents covers a large array of connectors for your pioneering ideas.

- Wide range of standard products
- Proven glow wire resistance
- Extensive knowledge of customer-specific system solutions

It is increasingly required that heat produced from electronic components has to be dissipated in order to improve the life and functionality of modern parts. Especially high-power LEDs demand an optimized heat management for tight installation spaces.

As a pioneer in the field of RAST connectors we have developed an edge connector that secures the safe single-sided mating with a PCB. Compatible with our manufacturing equipment, its mating face leans toward the ver- satile 2.5 RAST connector used by the billion.

Overmolded Connectors (precision components)

Overmolding: More than a Connector

|by Lumberg

Our proficiency is not limited to connectors alone. The cost-effective overmolding of our connectors for your individual precision components are equally elements of our services portfolio. By using integrated production systems for highly-automated overmolding and naturally, injection molding, we implement runnerless, safe solutions for a costand time-efficient application with your product assembly.

At the same time, our sophisticated contacting technology to the cable is retained for you: With overmolded RAST connectors, for example, the insulation displacement technology. Up to the highly individual piercing technology.

RAST 1.5: Top Miniaturization Achieved | new by Lumberg

"Home of the RAST Connector" – Lumberg stands for this like no other connector manufacturer. RAST systems are the foundation of the company's success in automotive technology as well. In 1986, RAST 5 with a contact pitch of 5.0 mm made its debut. In the course of miniaturization, the RAST 2.5 system was introduced in 1993, which saved 72 % in size and opened up new applications, especially in building technology.

Now, for the first time, RAST 1.5 in IDT is being launched. Compared to RAST 2.5, it saves another 43 % in size.

The characteristic RAST coding is available as well as the option of fully automated cable assembly. The weight saving due to reduced conductor crosssections is then 40 %.

RAST 2.5 for 1 mm PCBs

Consistent: The RAST-2.5 connector, which has proven itself a billion times over and can be used up to 4 A, has also been further developed. Increasingly, 1 mm PCBs are being used where there are challenges in terms of confined installation spaces, desired weight savings or optimization of cooling. It can be a good alternative to the common 1.6 mm PCB, which stores more thermal energy.

The connector now comes with a familiar layout: with contact spacing of 2.5 mm, with secure latching on the 1 mm PCB – and of course with the great advantage of economical and efficient automated cable assembly using IDT.

13 🏹

see page 24-26

Evolution meets Revolution [IDT meets SKEDD]

Reversible direct connector for arbitrary mating with the PCB

SmartSKEDD: While direct contacting on the edge of the printed circuit board with RAST connectors is one of our domains, and press-fit technology as an irreversible, solderless connection is our compulsory program, a new type of connector has been added to this line-up: the direct connector for multiple plug-ins and plug-outs that can mate without a corresponding part anywhere on the printed circuit board using Insulation Displacement Technology.

SKEDD technology makes this possible. The individual contact comprises two contact tongues which, when inserted into a plated-through hole in the PCB, retract evenly and produce a solderless, reliable mechanical electrical connection.

Extra robust and reliable: SnapFit locking

Three solid pins on each casing guarantee a secure positioning and prevent mismating. And there is more: each side of the connector features two snap-fits that lock – or rather: snap – the connector tightly onto the PCB. To release the connector, simply press on the primary lock.

Connectors can be mated without tools, for total convenience when mounting entire sub-assemblies. This enables completely new designs since they can be used right in the middle of a printed circuit board, even on the reverse. Here, reversible mating also facilitates for the first time a simple exchange of components as is required, for example, during servicing. In combination with Insulation Displacement Technology which draws on all advantages offered by automated cable assembly and vouches for the convenient production of even large quantities, our unparalleled solution that literally centers your ideas on the PCB is really smart – or simply: SmartSKEDD.

System Partnership [collaborative performance]

Success: Shared Solution

Products, solutions, services – with our business segments clearly mapped-out and focusing on technological challenges that we know inside out, we concentrate on your application-specific requirement. With solutions that accommodate everything from catalog products to individual product innovation in closest cooperation with you.

We do more than connectors – we design and develop full products and sub-assemblies for you while coordinating product requirements and specifications with you and other suppliers involved. We develop and clarify technical interfaces and control the process.

Our range of manufacture gives us more speed, greater flexibility and added individuality. Good for you to know – in case things are "really urgent".

Our key technologies are punching, bending, injection molding and assembly – we process a variety of metals and plastics – and we design and build assembly lines for the actual connection.

The right systems technology, degree of automation, product implementation, product planning, efficiency-creating measures and process improvements are our day-to-day business for the lifecycle of your customized product.

we have many coming your way.

is based on their skills.

Direct and indirect mating

- Insulation displacement technology (IDT) or screw clamp
- Keying to avoid mismating
- Color keying facilitates assembly and servicing
- Special versions for higher ambiance temperatures
- For load currents up to 16 A

3612 · 3613 · 3614 · 3602

	RAST 5 direct connectors with screw terminals		
dge	3612	with interior locking on guide frame	
ard e	3613	with keying rib and closed sides	
it bo	3614	with/without keying rib and (shorter) closed sides	
ircu	3602	guide frame	
for c	6 A – 630 V AC – GWT 750 °C – poles 2-6 (3602 2-12)		
tors	3633 ·	3636	
RAST 5 direct connectors, insulation displacement technology			
tcor	3633	with exterior locking on guide frame	
Direct	3636	with/without keying rib and closed sides, with/without locking on printed circuit	

3633 · 3636

poles

RAST 5 direct connectors, insulation				
displacement technology				
3633	with exterior locking on guide frame			
3636	with/without keying rib and	>		

locking on printed circuit board

6 A – 250 V AC – GWT 750 °C – poles 2-12

ment technology 3623 · 3625 with exterior locking 3626 · 3627 with interior locking chassis connector with

10 A (3625 · 3627 16 A, 3628 12 A) - 250 V AC - GWT 750 °C (except 3628) 1-12 (3625 · 3627 1-4, 3628 8)

3618 · 361899

3611 · 3615

and interior locking

latches

3611 straight

RAST 5 connectors with screw terminals

3615 angular, with/without handle

RAST 5 tab headers with screw terminals, with/without handle latches

interior locking

3618 standard version

361899 with pre-mating contact

10 A - 250 V AC - GWT 750 °C - poles 2-7

3641 · 3642 · 3671 · 3672

RAST 5 tab headers, with/without partitions 3641 · 3671 upright with spigot pottable version 364197 3642 · 3672 angular with upper side locking (**364...** without partitions)

(364x99 with pre-mating contact)

boards

socket

headers and

tab

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10 A (364...V167 16 A) - 250 V AC - GWT 750 °C - poles 3-27 (364... 2-12)

3643-3645 · 3649 · 3673 · 3674

RAST 5 tab headers, with/without partitions, angular with lower side locking, angular with lower side locking

3643 · 3673 standard version

3644 · 3674 higher version with spigot

3645 higher version without spigot

dual row tab header 3649

configure (364... without partitions) free

(367x99 with pre-mating contact)

10 A (364...V167 16 A) - 250 V AC - GWT 750 °C - poles 3-27 (364... 2-12)

RAST 3676 · 3677

RAST 5 tab headers with partitions and neutral and/or protective conductor bridges System in insulation displacement technology 3676 upriaht 3677 angular with upper side locking

3678 · 3679

RAST 5 tab headers with partitions and neutral and/or protective conductor bridges in insulation displacement technology, angular with lower side locking

3678	standard	version

3679 higher version with spigot

10 A - 250 V AC - GWT 750 °C - poles 3-27

3686 · 3687

RAST 5 socket boards with partitions and neutral and/or protective conductor bridges in insulation displacement technology (1) (1) (2)

3686	upright with spigot
3687	angular with lower side locking

10 A – 250 V AC – GWT 750 °C – poles 2-26

3680 · 3683

Combined RAST 5 tab headers and socket boards with partitions and neutral and/or protective conductor bridges in insulation displacement technology

- 3680 upright with spigot
- 3683 angular with lower side locking

10 A – 250 V AC – GWT 750 °C – poles **3680** 2-25, **3683** 2-27

RAST 7.5 Power™ (up to 25 A) **RAST 2.5 Power™** (up to 10 A)

- Indirect mating
- Insulation displacement technology (IDT), AWG 14/2.5 mm²
- For load currents up to 25 A
- Ideal for heat pump systems

- Direct and indirect mating
- Insulation displacement technology (IDT)
- For load currents up to 10 A

3723

RAST-7.5-Power™ connector, indirect mating, insulation displacement technology, with exterior locking

25 A – 500 V AC – GWT 750 °C – poles 2-4

3741

RAST-7.5-Power™ tab header, upright with spigot

25 A – 630 V AC – GWT 750 °C – poles 2-5

357099

3570 · 3575 RAST 2.5 Power connector, insulation displacement

- 3570 direct and indirect mating
- **3575** direct mating, with/without locking, with/without keying rib and closed sides

6 A (**3570** 10 A indirect mated 2-5 poles) – 400 V AC – GWT 750 °C – poles 2-10

3520-3523

RAST 2.5 connectors, direct and indirect mating, insulation displacement technology pitch 2.5/5.0 mm

3521 · 3523 standard version

3520 · 3522 with interior locking

4 A – 32/250 V AC – GWT 750 °C – poles 2-20

3510-3518

RAST 2.5 connectors, direct mating, insulation displacement technology, with/without keying rib and closed sides pitch 2.5/5.0 mm

3510 · 3511 standard version

3512 · 3513 locking by lateral locking hooks

3515 · 3516 locking by locking hooks

3517 · 3518 locking by locking toes

4 A – 32/250 V AC – GWT 750 °C – poles 2-18

3517-5

RAST 2.5 connectors, direct mating on 1.0 mm printed circuit boards, insulation displacement technology, enhanced locking toes, with/without keying rib and closed sides pitch 2.5

printed circuit boards 1.0 ± 0.14 mm

4 A - 32 V - GWT 750 °C - poles 3-9

- Direct and indirect mating
- Insulation displacement technology (IDT)
- Keying to avoid mismating, single or double-row
- For signal and load currents up to 4 A

3541-3546

RAST 2.5 (chassis) tab headers, insulation displacement technology, with locking latch pitch 2.5/5.0 mm 3541 · 3542 standard version 3545 · 3546 for panel mounting

4 A (with 3570 6A) - 32/250 V AC - GWT 750 °C - poles 2-20

3550-3557

RAST 2.5 pin hea pitch 2.5/5.0 mn	aders 1
upright with spig	got
3550 · 3552 w	ith locking latch
3551 · 3553 w	ith interior locking
angular	I
3554 · 3556 w	ith locking latch
3555 · 3557 w	ith interior locking

4 A (**355...V167** up to 10 A) – 32/250 V (**3556-3557** 400 V) – GWT 750 °C – poles 2-20

83545 · 83546

RAST 2.5 double chassis pin header, with locking latch pitch 2.5/5.0 mm 83545 2.5 mm 83545 5.0 mm

4 A - 160/400 V AC - GWT 750 °C - poles 3-4 (83545), 2 (83546)

detailed information www.lumbera.com

- Direct mating
- Insulation displacement technology (IDT)
- Multiple pluggable
- Exceptional retaining forces
- For signal and load currents up to 4 A

- Direct and indirect mating
- Insulation displacement technology (IDT)
- Keying to avoid mismating, double-sided keying
- For signal and low load currents up to 3 A

733500 · 733520

SmartSKEDD connector, direct mating, insulation displacement technology, with keying pins, positioning spigot and (double) locking on the printed circuit board

4 A – 50 V AC – poles 3-11 (**733520** 3-13)

332100 · 331000

RAST 1.5 connectors, insulation displacement technology

332100 direct and indirect mating

331000 direct mating, with/without closed sides

3 A - 50 V - poles 2-12

335095

RAST 1.5 pin headers, upright, in surface mount technology (SMT) (in preparation)

3 A – 50 V – poles 2-12

1.2 A - 160 V AC (MICS/SMD 80 V AC) - poles 4-20 (all even) and 26

More Systems (diversity)

	MinimodulTM Multimodul	TM
	The second second	 Pitch 2.5 mm Insulation displacement and crimp technology For signal and low load currents up to 5 A
	USB and Modular Connecto	prs
D)		 Data transmission rates up to 10 Gbit/s According to USB 3.1 specification
2 A	1	 For signal and low load currents up to 5 A/2 A
	High-Current Contacts	
		 high-current contact sockets power phase connectors for PCBs or busbars For load currents up to 200 A
	Circular Connectors	
MARINA S		 Circular connectors with threaded joint M16, IP68, AISG DIN circular connectors

detailed information www.lumberg.com

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