



YOUR BRIDGE TO
ELECTRONICS
SINCE 1966

POWER PIN
CATALOGUE

ORVEM Company

Orvem was born in 1966 with the mission to offer electronic components of high quality and competitive prices, together with an efficient service, to the electronic industry.

As specialist distributor, we offer high stock level of components, forecast management, logistic support and we follow the EMS production plants in Europe as well as in Asia or America.

The experience of over 50 yrs in the market, lead us to develop important partnerships and to supply relevant customers in different areas, from automotive to transportation, from white goods to lighting, being able to support them with our product lines and know-how.



We are our customers point of reference, developing design-in and giving technical support, in close collaboration with our customers to create the most innovative, reliable and cost effective products and reach the success together.



PRODUCT LINE

Our product line is updated with the latest technology. We have selected several electromechanical product families with the goal to offer the best choice and a full package.



SOLUTION PROVIDER

Know-how in electronic components and custom product development. Being firstly a technical partner, we work as a solution provider for you and your company.

Our Product Portfolio

SEVERAL PRODUCT FAMILIES ELECTROMECHANICAL COMPONENTS



Connectors

Wide range of solution from board to board to board to wire, nylon connectors, input/output interface, and others.



Flexible Printed Circuit

Custom solution for FPC and FFC, technologically advanced, cost-effective, and designed to satisfy your need.



Thermal

Different type of components for thermal management. From single components to complete solutions.



Circuit Protection & Passive

Wide range of components, from capacitors to fuses. All the components you need to protect your circuit.



Wireless, Opto & Display

Solutions from external antennas to single module. Wide selection of GPS antennas. From 7 seg display to complete custom solutions with new technologies.



Cable Harness

Small AWG size cable harness for datacom, industrial automation, instrumentation, medical, automotive infotainment. Crimp, solder, IDC types. Custom molding solution available.



PRESS FIT TECHNOLOGY

- Press-fit technology offers an attractive alternative to simple soldering technology.
- An effective electrical press-fit connection is created by pressing a pin into plated through the holes of a circuit board and - as part of cold welding process - generating a gas-tight electrical connection.
- The through-hole plating for a press-fit system is essentially made in the same way as the holes for accepting components for THT soldering. Thus there are no changes required in the PCB manufacturing process.
- The press-fit system compared to the soldering system is that it produces not only an electrical but also an extraordinarily strong mechanical connection between the inserted components and the PCB.

With regard to long-term reliability, the press-fit is convincing since it has the lowest FIT value (Failure in Time) of the overall system. It is up to 30 times better than that of an SMT solder joint.

Press-fit connection provides not only electrical but also mechanical connection solutions for electrical components. The press connection zone has a lower electrical resistance than the brass pin itself and thus does not pose an electrical or thermal bottleneck. The connection surface angle is normally much greater, which provides a generous safety buffer for the electrical connection.

WHY PRESS FIT TECHNOLOGY IS A BETTER CHOICE

- Very high ampacity, ideally suited for high continuous and peak currents.
- Press-fit connections show extremely high environmental stability.
- Low-resistance connection means low self heating, hence less heat must be dissipated through the system.
- No heat development on sensitive components and no thermal stress of the circuit board.
- Extremely stable mechanical.
- No problems with cold solder joints.
- High mechanical retaining forces.
- Double-sided mounting of circuit board is possible.
- Much higher long-term reliability as for solder connections.
- More secure than soldering and screw connections.
- No changes in the production of circuit boards necessary.

TECHNOLOGY

- Auto-lathe turning: OD: $\varnothing$ 0.5-20mm Tol. ± 0.01 mm
- CNC lathe turning: OD: $\varnothing$ 0.5-250mm Tol. ± 0.005 mm
- CNC Milling: 800X600mm (LxW), Tol. ± 0.01 mm
- Grinding: Tol. ± 0.002 mm
- Screw heading & rolling: Metric M0.8-M36 Unified Imperial #0-2"
- Stamping: 1200T max

POWER PIN CATALOGUE

PRESS FIT TYPE - SINGLE PIECE



ORVIT01
Internal thread
2 rows

ORVIT02
Internal blind hole
thread - 2 rows

ORVIT03
Internal thread
circumference

ORVIT04
Internal thread full
plain

ORVET01
External thread full
plain



ORVRA01
Right angled
2 rows

ORVRA02
Right angled
2 rows

ORVRA03
Right angled
full plain

ORVRA04
Right angled
full plain

ORVRA05
Right angled
full plain

PRESS FIT TYPE - TWO PIECE



ORVTP01
Ground element
base part

ORVTP02
Ground element
base part

ORVTP03
Socket
Female thread

ORVTP04
Socket
Female thread



ORVTP05
Socket
Female through hole

ORVTP06
Socket
Female through hole

ORVTP07
Pin
Male thread

ORVTP08
Pin
Male thread

SMD TYPE



ORVSM01
External thread



ORVSM02
External thread
with pin



ORVSM03
Internal blind hole
thread



ORVSM04
Internal blind hole
thread with pin



ORVSM05
Internal blind hole
thread groove



ORVSM06
Internal blind hole
thread w/ pin groove



ORVSM07
Internal through
hole thread



ORVSM08
Internal through
hole thread groove



ORVSM09
Right angled



ORVSM10
Right angled
with pins

THROUGH HOLE TYPE



ORVTH01
Internal through hole
thread



ORVTH02
Internal blind hole
thread



ORVTH03
External thread

! CUSTOM TYPE AVAILABLE !

Due to our policy of continuous product improvement, we reserve the right to discontinue or change product specifications or designs at any time without notice and without incurring obligations. You should always contact us for the most up-to-date information on our products.

POWER ELEMENT

1000 A

Single-piece Power Elements are used for the supply and distribution of high currents in connection with circuit board based systems. Depending on the pin arrangement and the layout, currents up to 1,000A are possible.

Power Elements perfectly qualify as connecting element for fuses, IGBTs, switches and cables to the circuit board or as contact element for board-to-board respectively board- to-case.

APPLICATIONS

- Board-to-board over 90° or packaging
- Wire-to-board screw connection of ring terminals
- Electro mechanics such as hinges and case mounting
- Spacers
- Retainers / fastenings of switches, fuses, IGBTs

ADVANTAGES

- Power Elements are pressed in into the circuit board. Soldering is not necessary.
- PCBs are not exposed to temperature stress.
- Processing step easily blends in to the processing chain and is highly cost efficient.
- Several Power Elements can be pressed in simultaneously
- No special equipment is needed for pressing in

Technical Data	
Current carrying capacity per pin at 20°C	10/15 A
Current carrying capacity per pin at 85°C	6/10 A
Material	CuZn39Pb3
Surface	Tin-plated (nickel, silver, nickel/gold, others, possible)
Press-in force	min 40 N per pin / max 250 N per pin
Retaining force	60 - 80 % of Press-in force
Press-in speed	100 - 250 mm / min

Dimensions	
L x L	from 5x5 to 22x22 mm
Height	from 3 mm
Pin length	up to 7.5 mm
Pin diagonal	standard 1.6 mm

PCB	
Material	FR4 (EPGC202)
PCB thickness	from 1.5 mm
Drilling diameter	1.60 ± 0.025 mm
Final diameter	1.45 ± 0.05 mm
Chemical surface	1.475 ± 0.05 mm
Copper in hole thickness	min 25 µm, max 80 µm

DIFFERENT TYPES:



through hole
2 rows

blind hole
2 rows

through hole
circumference

blind hole
full plain

bolt

bracket through hole
2 rows

bracket through hole
full plain

U groove bracket
full plain

PINS	
4	M3
6	M3, Ø 3.2
8	M2.5, M4, M5, M6, Ø 4.2, Ø 5.2
9	M3, M4, M5, Ø 3.2
10	M6, M8, Ø 6.2, Ø 8.2
12	M4, M5, Ø 10.2
16	M4, M5, M6, Ø 4.2, Ø 5.2
20	M8, M10
25	M6, M8, Ø 5.2, Ø 6.2, Ø 8.2
36	M10, M12, Ø 8.2, Ø 10.2

ORVIT01 SERIE

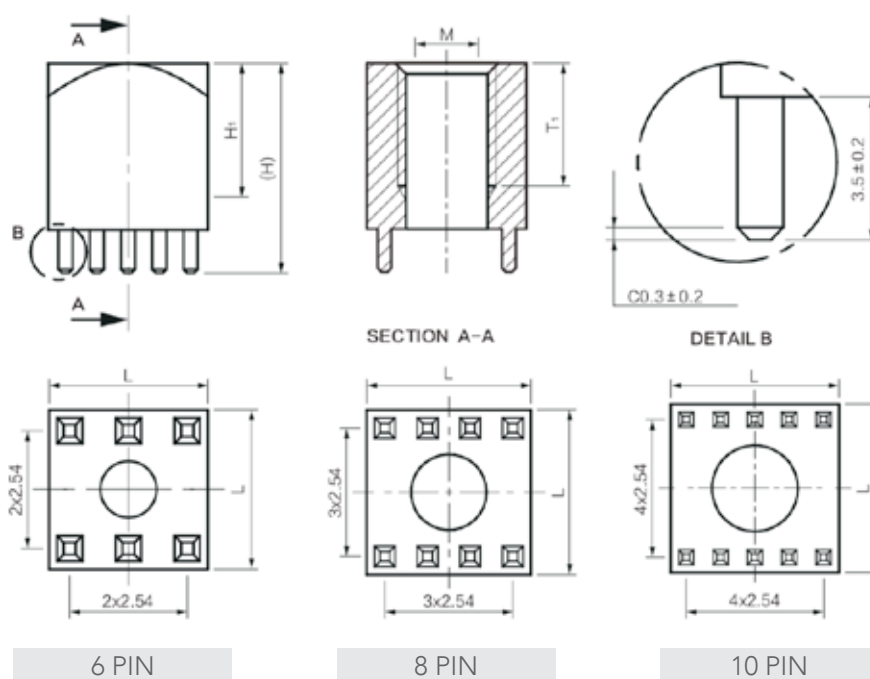
Features:

- Cable and fuse can be fixed on PCB
- Press Fit technology
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:



Types available:

Part Number	M	T1	H	H1	L	Pins	IR (A)	Tightening torque
ORVIN0001	M3	5	9.5	6	7	6	100	0.5 Nm
ORVIN0002	M4	6	10.5	7	9	8	160	1.2 Nm
ORVIN0003	M5	6	10.5	7	9	8	160	2.2 Nm
ORVIN0004	M8	10	17	13.5	13	10	240	9 Nm

*Dimensions in mm

ORVIT02 SERIE

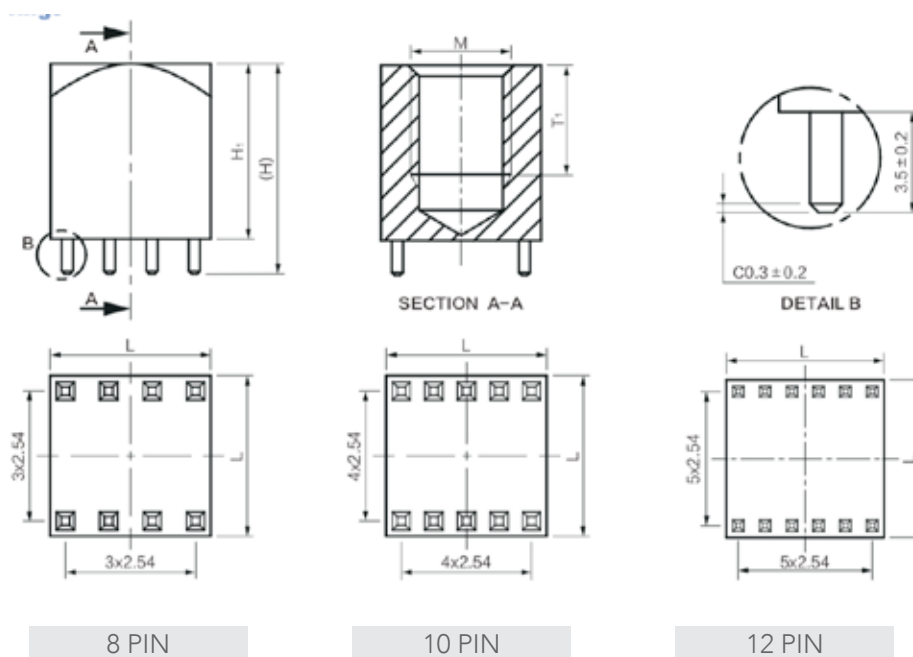
Features:

- Cable and fuse can be fixed on PCB
- Press Fit technology
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:



Types available:

Part Number	M	T1	H	H1	L	Pins	IR (A)	Tightening torque
ORVIN0005	M6	9	17	13.5	10	8	160	4 Nm
ORVIN0006	M8	10	17	13.5	13	10	240	9 Nm
ORVIN0007	M10	11	21	17.5	16	12	320	17 Nm

*Dimensions in mm

ORVIT03 SERIE

Features:

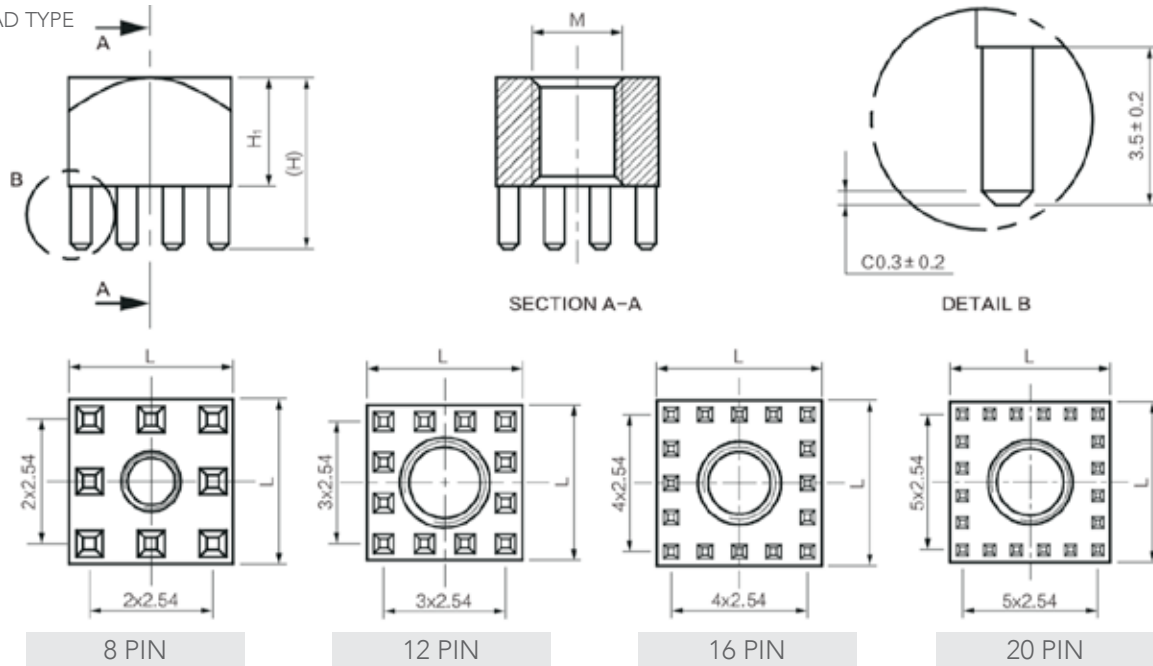
- Cable and fuse can be fixed on PCB
- Press Fit technology
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:

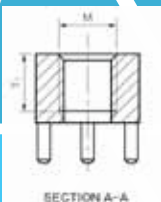
FULL THREAD TYPE



Types available:

Part Number	M	H	H1	L	Pins	IR (A)	Tightening torque
ORVIN0008	M2.5	9.5	6	7	8	130	0.29 Nm
ORVIN0009	M4	9.5	6	9	12	175	1.2 Nm
ORVIN0010	M5	9.5	6	9	12	175	2.5 Nm
ORVIN0011	M6	17	13.5	13	16	240	3.9 Nm
ORVIN0012	M8	17	13.5	13	16	340	9 Nm
ORVIN0013	M8	17	13.5	16	20	340	9 Nm
ORVIN0014	M10	21	17.5	16	20	340	17 Nm
ORVIN0015	M2.5	9.5	6	7	8		NOT FULL THREAD

*Dimensions in mm

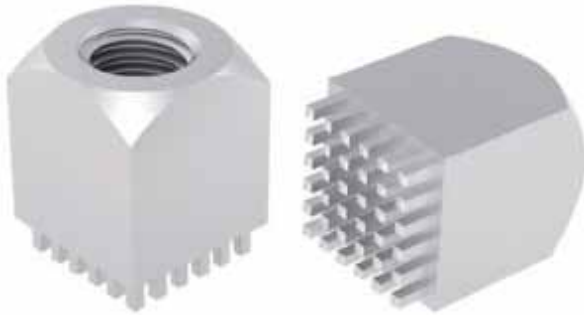


T1 = 5

ORVIT04 SERIE

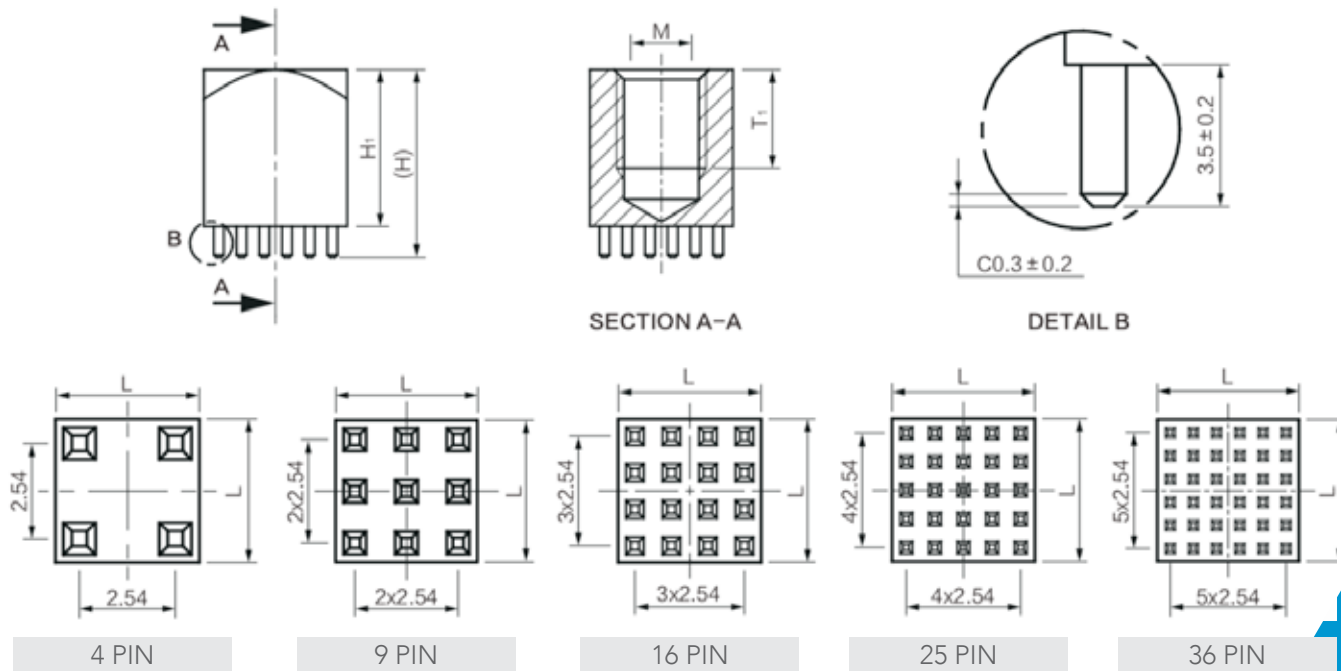
Features:

- Cable and fuse can be fixed on PCB
- Press Fit technology
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:



Types available:

Part Number	M	T1	H	H1	L	Pins	IR (A)	Tightening torque
ORVIN0016	M3	3.5	9.5	6	7	9	160	0.5 Nm
ORVIN0017	M3	4	10.5	7	5	4	70	0.5 Nm
ORVIN0018	M4	4	10.5	7	9	16	180	1.2 Nm
ORVIN0019	M5	4	10.5	7	9	16	180	2.2 Nm
ORVIN0020	M6	6.5	14	10.5	10	16	240	3.9 Nm
ORVIN0021	M8	8	17	13.5	13	25	250	9 Nm
ORVIN0022	M10	11	21	17.5	16	36	340	17 Nm

*Dimensions in mm

ORVET1 SERIE

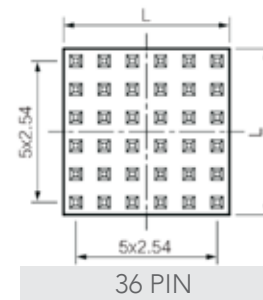
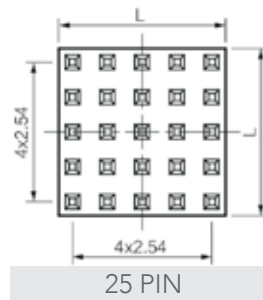
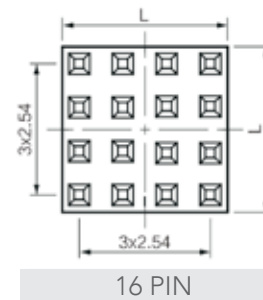
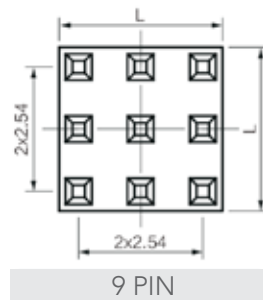
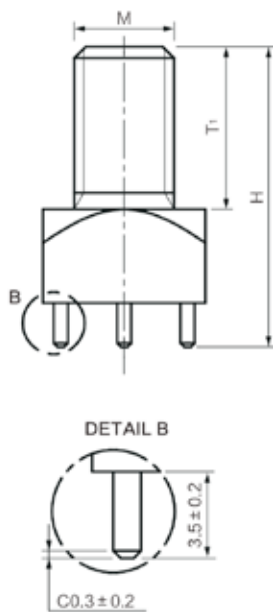
Features:

- Cable and fuse can be fixed on PCB
- Press Fit technology
- Cable and fuses could be fixed on pcb
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:



Types available:

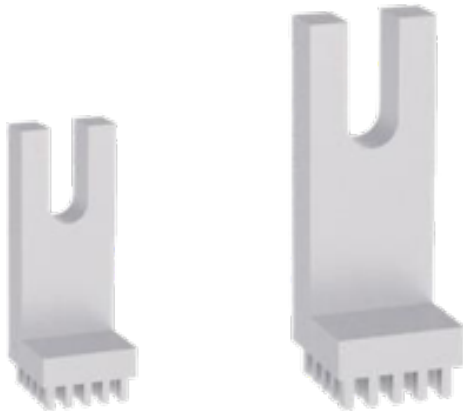
Part Number	M	H	H1	L	Pins	IR (A)	Tightening torque
ORVIN0023	M3	11	5	7	9	130	0.5 Nm
ORVIN0024	M4	12.5	6	7	9	130	1.2 Nm
ORVIN0025	M4	13	6	9	16	130	1.2 Nm
ORVIN0026	M5	15.5	8	7	9	130	2.2 Nm
ORVIN0027	M5	16	8	9	16	180	2.2 Nm
ORVIN0028	M6	19	10	13	25	250	3.9 Nm
ORVIN0029	M8	24	13	13	25	250	9 Nm
ORVIN0030	M10	27.5	16	16	36	340	17 Nm
ORVIN0031	M12	41.5	30	18	36	340	17 Nm

*Dimensions in mm

ORVRA05 SERIE

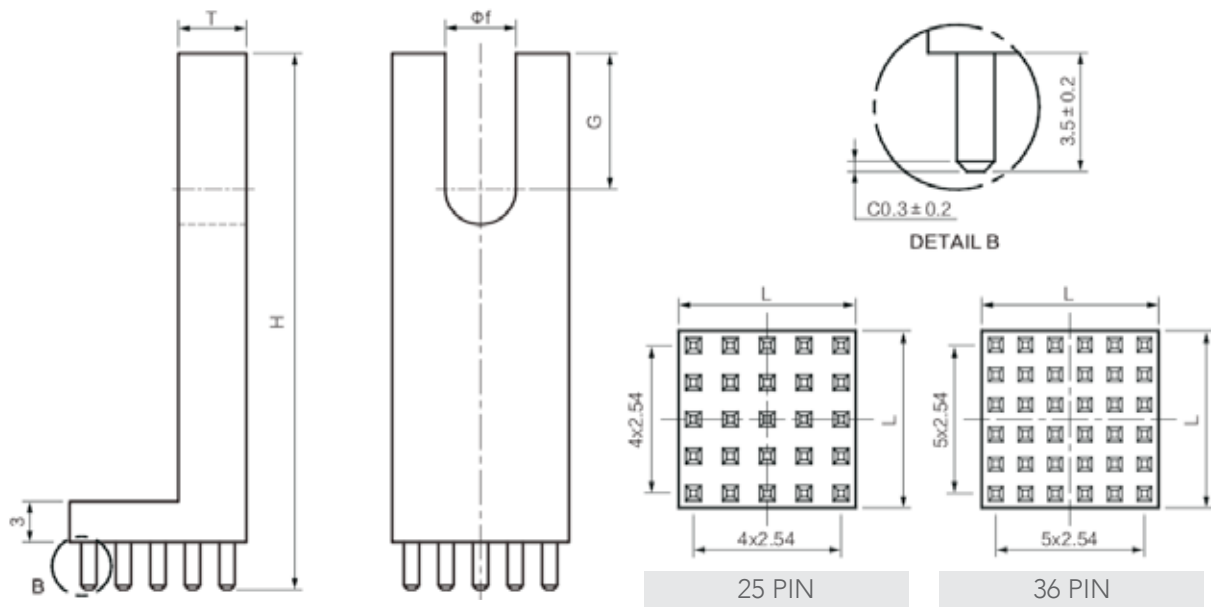
Features:

- PCB connection for fixing cable lugs
- Due to the u profile ensures a simple processing of the mounting bolt
- Compensation of greater height tolerances
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:



Types available:

Part Number	Ø f	H	T	G	L	Pins
ORVIN0045	Ø 5.2	39.5	5	10	13	25
ORVIN0046	Ø 8.2	42.5	5	10	16	36
ORVIN0047	Ø 10.2	44.5	5	13	16	36

*Dimensions in mm

ORVRA04 SERIE

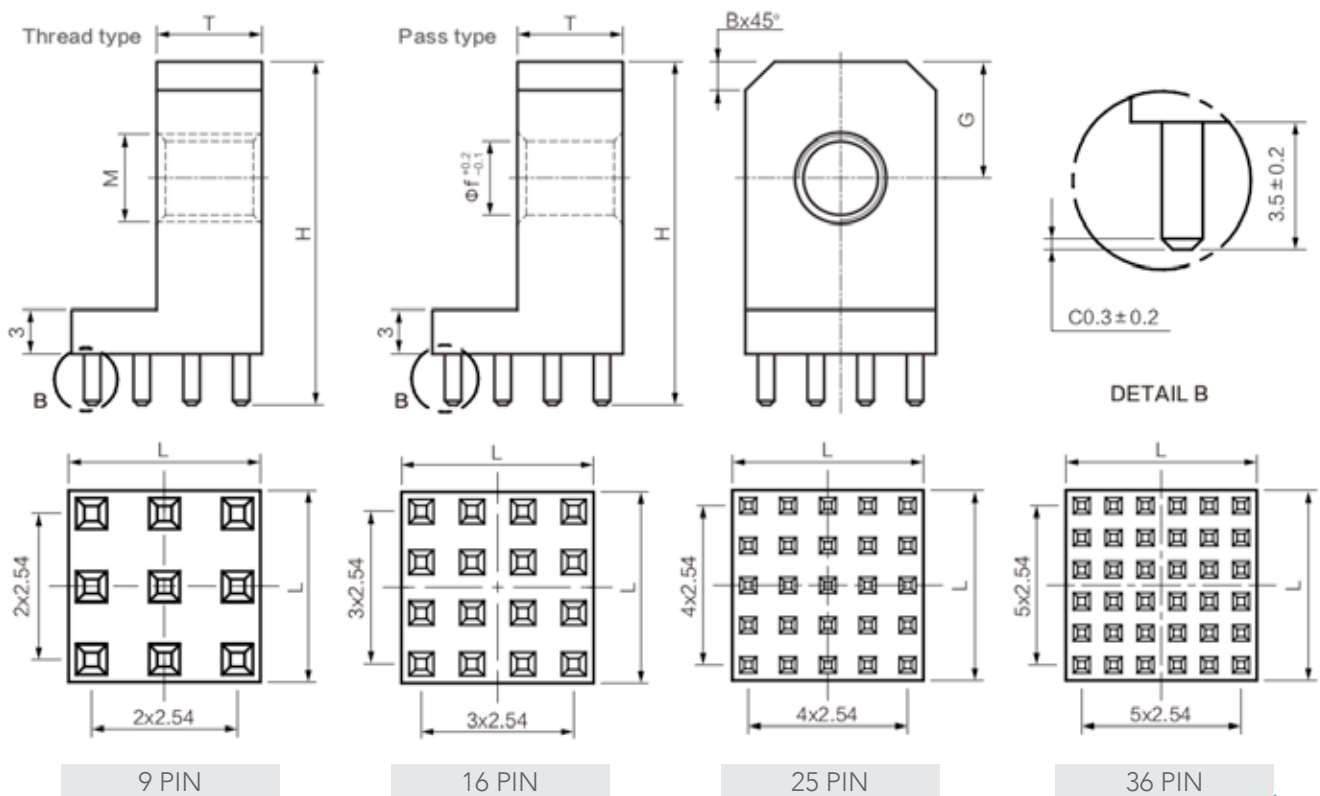
Features:

- PCB connection for fixing cable lugs
- Press Fit technology
- As a fixing element for assembly on housing
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Drill Hole diameter	1.6 mm
Final Hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	IEC 352-5

Technical drawings:



Types available:

Part Number	M / Ø	B	H	T	G	L	Pins
ORVIN0032	M3	1	17.5	4	5	7	9
ORVIN0033	M4	1.5	17.5	5	5	9	16
ORVIN0034	M5	1.5	17.5	5	5	9	16
ORVIN0035	M6	2	23.5	8	8	13	25
ORVIN0036	M8	2	23.5	8	8	13	25
ORVIN0037	M10	2.5	28.5	10	10	16	36
ORVIN0038	Ø 3.2	1	17.5	4	5	7	9
ORVIN0039	Ø 4.2	1.5	17.5	5	5	9	16
ORVIN0040	Ø 5.2	1.5	17.5	5	5	9	16
ORVIN0041	Ø 6.2	2	23.5	8	8	13	25
ORVIN0042	Ø 8.2	2	23.5	8	8	13	25
ORVIN0043	Ø 10.2	2.5	28.5	5	10	16	36
ORVIN0044	Ø 10.2	2.5	28.5	10	10	16	36

*Dimensions in mm

POWER ELEMENT

500 A

Two-piece Power Elements are a solution for through screw technologies on circuit boards. These high current terminal blocks and spacers enable a durable and reliable connection and mounting on the PCB without stressing it. Depending on the pin arrangement and the layout, currents up to 500A are possible. That is the reason why Power Elements perfectly qualify as connecting elements for fuses, IGBTs, switches and cables and the circuit board or for board-to-board connections.

APPLICATIONS

- Board-to-board stackable
- Wire-to-board screw connection of ring terminals
- Electro mechanics through screw technology
- Spacers
- Retainers / fastenings of switches, fuses, IGBTs

ADVANTAGES

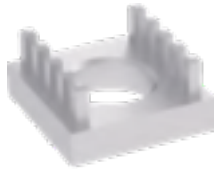
- Power Elements are pressed in into the circuit board. Soldering is not necessary.
- PCBs are not exposed to temperature stress.
- Processing step easily blends in to the processing chain and is highly cost efficient.
- several Power Elements can be pressed in simultaneously
- no special equipment is needed for pressing in

Technical Data	
Current carrying capacity per pin at 20°C	15 A
Current carrying capacity per pin at 85°C	10 A
Material	CuZn39Pb3
Surface	Tin-plated (nickel, silver, nickel/gold, others, possible)
Press-in force	min 40 N per pin / max 250 N per pin
Retaining force	60 - 80 % of Press-in force
Press-in speed	100 - 250 mm / min

Dimensions	
L x L	from 9x9 to 22x22 mm
Height	from 3 mm
Pin lenght	up to 7.5 mm
Pin diagonal	standard 1.6 mm

PCB	
Material	FR4 (EPGC202)
PCB thickness	da 1.5 mm
Drilling diameter	1.60 ± 0.025 mm
Final diameter	1.45 ± 0.05 mm
Chemical Surface	1.475 ± 0.05 mm
Copper in hole thickness	min 25 µm, max 80 µm

DIFFERENT TYPES:



basic element pins
2 rows
8,10,12 pin



basic element
pins circumferential
12,16,20



socket female
thread
M3 - M10

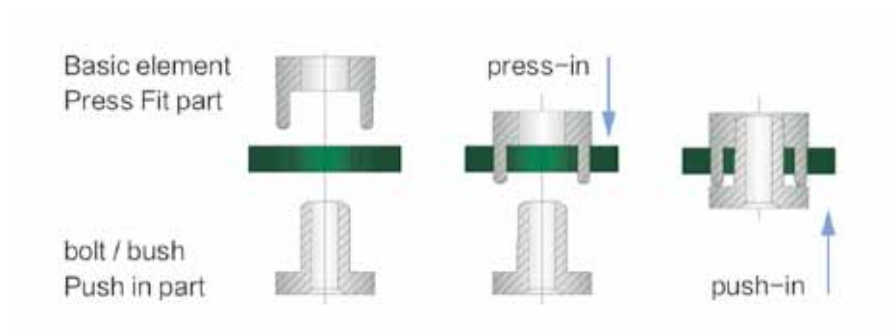


socket through hole
 $\varnothing$ 3.2 - $\varnothing$ 10.2



bolt male thread
M3 - M10

PROCESSING:



ORVTP03 SERIE

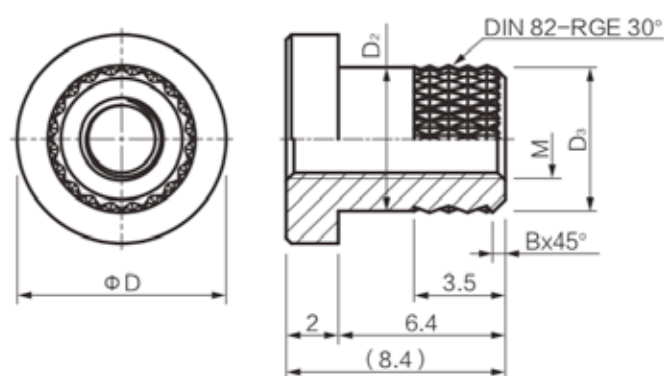
Features:

- Two parts, female thread
- Press Fit technology
- Base part to fix it on the pcb
- Fixing of large heavy components
- Custom version available

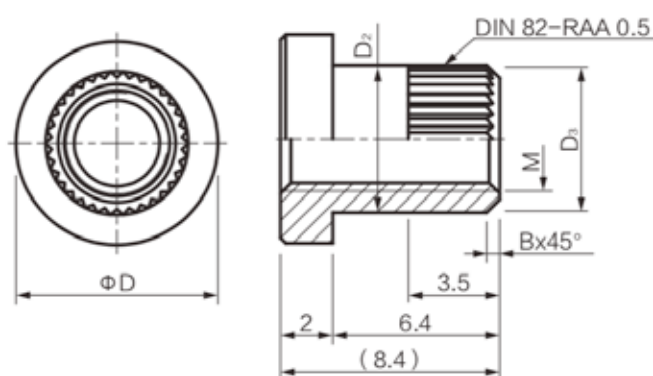


Material	CuZn39Pb3
Surface	Tin-plated
Current	up to 300 A
Heat Resistance	- 55 °C +150° C

Technical drawings:



diamont knurling



straight knurling

Types available:

	Part Number	M	D	D ₂ -0.2	D ₃ ± 0.5	B	Base associata
diamont knurling	ORVIN0048	M3	8	5.65	5.65	0.5	ORVIN0066
	ORVIN0049	M5	12	7.45	7.45	0.5	ORVIN0070
	ORVIN0050	M6	12	7.4	7.4	0.3	ORVIN0067 / 71
	ORVIN0051	M8	15	9.95	9.95	0.5	ORVIN0068
straight	ORVIN0052	M8	15	10.65	10.65	0.5	ORVIN0069
	ORVIN0053	M4	8	5.65	5.65	0.5	ORVIN0066

*Dimensions in mm

ORVTP06 SERIE

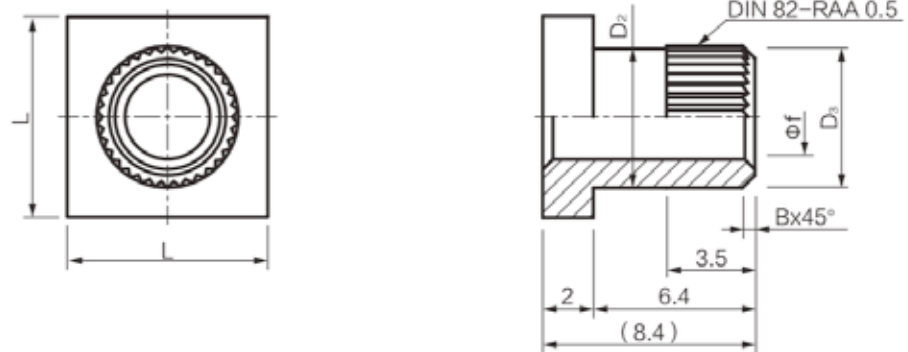
Features:

- Two parts, female thread
- Press Fit technology
- Base part to fix it on the pcb
- Fixing of large heavy components
- Custom version available



Material	CuZn39Pb3
Surface	Tin-plated
Current	up to 300 A
Heat Resistance	- 55 °C +150° C

Technical drawings:



Types available:

Part Number	ø f	L	D ₂ -0.2	D ₃ ± 0.5	B	Base associata
ORVIN0073	ø 3.2	9	5.65	5.65	0.5	ORVIN0066
ORVIN0054	ø 3.2	10	6.35	6.35	0.5	ORVIN0070
ORVIN0055	ø 4.2	9	5.65	5.65	0.3	ORVIN0066
ORVIN0056	ø 4.2	10	6.35	6.35	0.5	ORVIN0070
ORVIN0057	ø 4.2	13	7.45	7.45	0.5	ORVIN0071 / 67
ORVIN0058	ø 5.2	10	6.35	6.35	0.3	ORVIN0070
ORVIN0059	ø 5.2	13	7.45	7.45	0.5	ORVIN0071 / 67
ORVIN0060	ø 6.2	13	7.45	7.45	0.3	ORVIN0071 / 67
ORVIN0061	ø 6.2	16	10.65	10.65	0.5	ORVIN0069
ORVIN0062	ø 8.2	16	10	10	0.5	ORVIN0068
ORVIN0063	ø 8.2	16	10.65	10.65	0.5	ORVIN0069
ORVIN0064	ø 8.2	16	12.15	12.15	0.5	ORVIN0072
ORVIN0065	ø 10.2	16	12.15	12.15	0.5	ORVIN0072

*Dimensions in mm

ORVTP01 SERIE

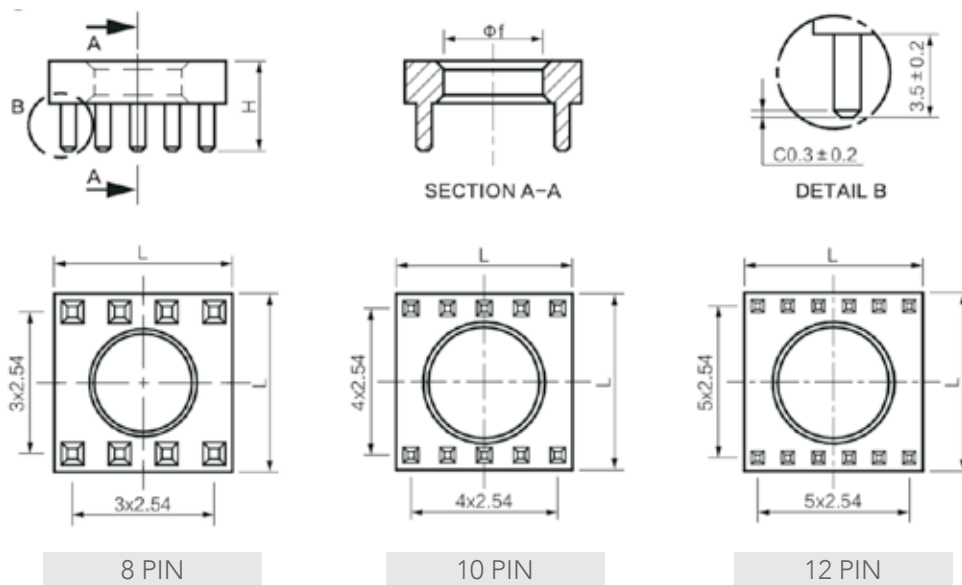
Features:

- Two parts, Base part, Two row pin population
- Pcb connection for fixing cable lugs
- Fixing of large heavy components
- Pcb protection from mechanical stress



Material	CuZn39Pb3
Surface	Tin-plated
Drill hole diameter	1.6 mm
Final hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	as per IEC 352-5

Technical drawings:



Types available:

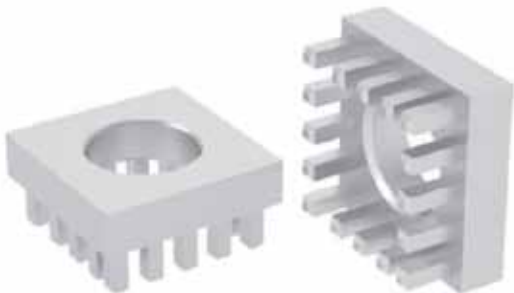
Part Number	Φf	H	L	Pins	IR (A)	Tightening force
ORVIN0066	Ø 5.5	6.6	9	8	160	2.2 Nm
ORVIN0067	Ø 7.3	6.6	13	10	240	3.9 Nm
ORVIN0068	Ø 9.8	6.6	16	12	320	17 Nm
ORVIN0069	Ø 10.5	6.6	16	12	320	17 Nm

*Dimensions in mm

ORVTP02 SERIE

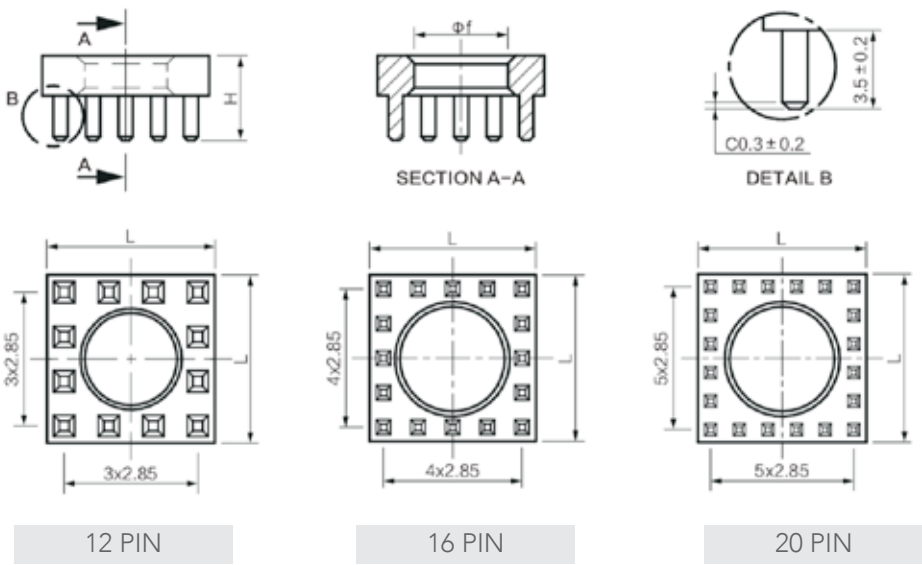
Features:

- Two parts, Base part, Circular pin population
- Pcb connection for fixing cable lugs
- Fixing of large heavy components
- Pcb protection from mechanical stress



Material	CuZn39Pb3
Surface	Tin-plated
Drill hole diameter	1.6 mm
Final hole diameter	1.475 mm
Heat Resistance	- 55 °C +150° C
Retaining force	as per IEC 352-5

Technical drawings:



Types available:

Part Number	ϕf	H	L	Pins
ORVIN0070	$\phi 6.2$	6.6	10	12
ORVIN0071	$\phi 7.3$	6.6	13	16
ORVIN0072	$\phi 12$	6.6	16	20

*Dimensions in mm



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