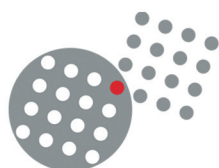


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Quadrax
Contact

Ethernet 100 Mbps Quadrax

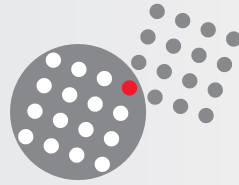
for MIL-DTL 38999, ARINC 600, EN2997, EN3646 connectors



SOURIAU
Connection Technology

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Company Profile

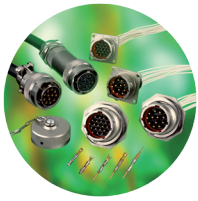


SOURIAU

Connectors and interconnect systems for harsh environments

The company designs, manufactures and markets high performance interconnect solutions for severe environments from industrial broadline and universal ranges to complex system with integrated functions:

filtering, high speed data transmission, hermetic seal, separation mechanism, remote handling, underwater mating...



Industrial



Aeronautical



Equipment & system

The dedicated end markets for SOURIAU's products are aeronautical, defense-space and industrial



Railway
Geophysics
Manufacturing environment
Instrumentation
Automation & process



Civil & military aircraft
Helicopter
Weapon delivery system
Avionics



Military marine
Communications
Satellites
Launcher & missile

SOURIAU was established in 1917 and has been created by successive acquisitions of the industrial, aeronautical, defense and space activities of SOURIAU, JUPITER and BURNDY

The group's products are engineered and manufactured in the USA and Dominican Republic, Europe and Morocco Japan and India, and sold by a worldwide sales and marketing organization, and in addition to SOURIAU's offices, a large network of licensed distributors and agents.

SOURIAU complies with most of national and international Quality Assurance Standards, production unit with ISO 14001.

**Quality Certificate
Management System**

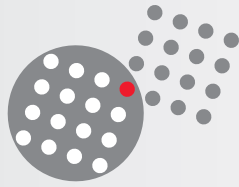
ISO 9001

**Environment Certificate
Management System**

ISO 14001

**Quality Certificate
Management System**

Aeronautic Industry : EN 9100



Technical Features and Benefits

▶ An optimized high speed copper contact

- ✓ **Size 8** outer contact with 4 strategically spaced size 24 inner contacts forming two **100 or 150Ω** matched impedance with excellent 360° shielding,
- ✓ Equivalent to **two twinax contacts** with:
 - better performances (reduced cross talk),
 - shorter cabling time,
 - compact profile,
 - lighter weight.
- ✓ One contact completes a **full duplex 100 Mbps ethernet link**, and fulfills the ISO/IEC 11801 **categorie 6** requirements



▶ A versatile technology

- ✓ Fit the major harsh environment **mil-aero connectors**:

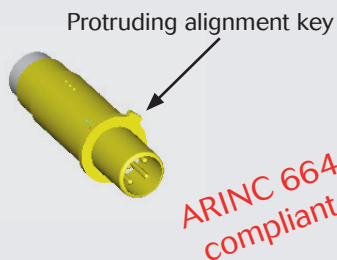


- ✓ **Ground connection** of the cable braid to the connector shell on :
 - All Arinc 600 layouts
 - MIL-DTL-38999
 - EN2997 layouts 08-01 & 28-06

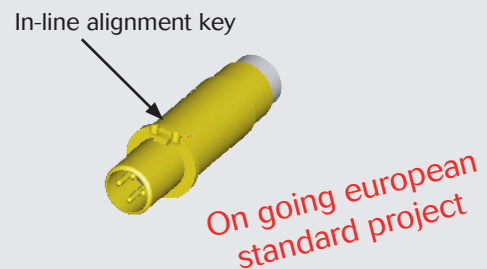
▶ A standardized technology

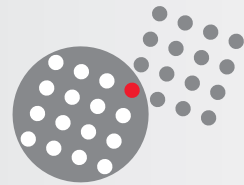
- ✓ 2 designs for 2 standards:

- **Protruding alignment key** for Arinc 600, EN2997, EN3646



- **In line alignment key** for MIL-DTL-38999





Quadrax Contact

Technical characteristics

Electrical

- **ISO/IEC 11801 category 6 compliant:**
 - Next (cross talk): > 46 dB at 250 MHz
 - Return loss: > 16dB at 250 MHz
 - Shield effectiveness: > 36dB at 80 MHz
- **Contact to shell continuity:**
< 10 mΩ (ARINC 600)
- **Contact resistance (low level):**
 - initial 15 mΩ,
 - after tests 30 mΩ,

Electrical (continue)

- **Dielectric withstanding voltage:**

Altitude	Service I
Sea level	500 Vrms
21 000 m	125 Vrms

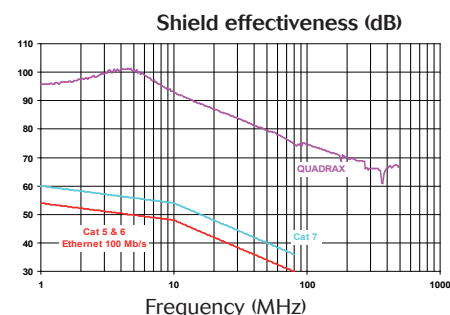
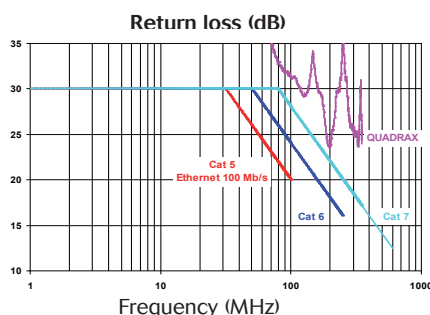
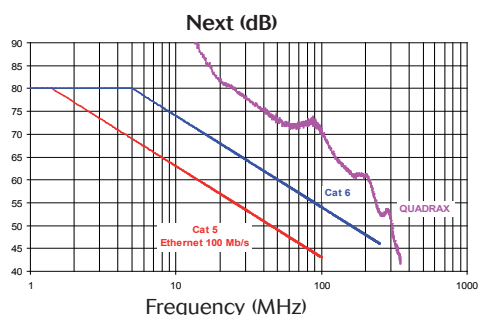
- **Insulation resistance:**
at ambient temperature:
> 5000 mΩ
at high temperature:
> 1000 mΩ

- **#24 contact cable size acceptance:**
AWG 22 to AWG 26

Mechanical

- **Operating temperature:**
-65°C + 200°C,
- **Inner contact:** copper alloy
- **Body:** copper alloy
- **Insulator:** thermoplastic
- **Contact plating:** gold over nickel

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Ordering information

- ◆ ARINC 600, EN2997, EN3646 contacts
Protruding alignment key.

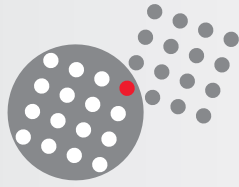
View	Contact type	Sealing	T° Max	Impedance	Release	Version	SOURIAU part number	ABS part number
	Male	Unsealed	200°C	100Ω	Rear	Crimp	ETH1-1100A	ABS0973 M08A
	Female	Unsealed	200°C	100Ω	Rear	Crimp	ETH1-1101A	ABS0974 F08A
	Male	Unsealed	200°C	100Ω	Front	PC tail L= 6.35 mm	ETH1-1110A	-
	Male	Unsealed	200°C	100Ω	Front	Tinned PC tail L= 6.35 mm	ETH1-1123A	-
	Male	Unsealed	260°C	100Ω	Rear	Crimp	ETH1-1126A	-
	Female	Unsealed	260°C	100Ω	Rear	Crimp	ETH1-1127A	-

- ◆ Sealing boot / Sealing plug

View	Type	Connector	Temperature	SOURIAU Part number
	Sealing boot	EN2997	200°C	8533 8236
		EN2997	260°C	8533 8307
		Arinc 600	200°C	8660 6053
	Sealing plug	EN2997	260°C	8533 8330

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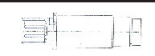


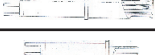




Quadrax Contact



◆ 38999 series I & 3 contacts

In line alignment key.

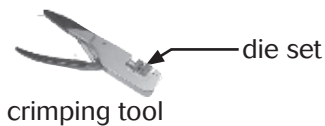
All contacts are delivered with a sealing boot.

View	Contact type	Sealing	Impedance	Release	Version	SOURIAU part number
	Male	Sealed	100Ω	Rear	Crimp	ETH1-1235A
	Female	Sealed	100Ω	Rear	Crimp	ETH1-1236A
	Male	Sealed	100Ω	Rear	PC tail	ETH1-1237A
	Female	Sealed	100Ω	Rear	PC tail	ETH1-1238A
	Male	Sealed	150Ω	Rear	PC tail	ETH1-1501A
	Female	Sealed	150Ω	Rear	PC tail	ETH1-1502A
	Male	Sealed	150Ω	Rear	Crimp	ETH1-1503A
	Female	Sealed	150Ω	Rear	Crimp	ETH1-1504A

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◆ Quadrax tools

- Outer body: M22520/5-01 crimping tool and M22520/5-45 die set rep B,



- Signal contact: M22520/201 crimping tool and K709 positioner,



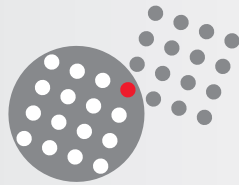
- Insertion/extraction tool (standard size 8 cavity tools): 8660-197 (metallic) or M81969/8-14 (plastic)



Recommended cable

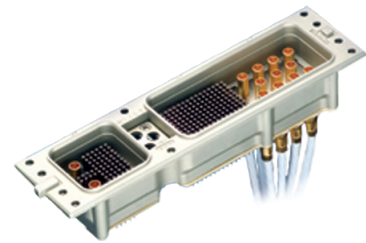
Characteristic impedance	Reference	Cable type	Number of pairs
100	ABS 1503 KD23	Star quad	2

ARINC 600 with Quadrax Contact



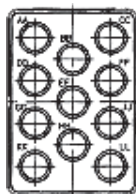
Mechanical

ARINC 600 shell: alodine or nickel plated,
 ARINC 600 insulator: thermoplastic, thermoset or metal,
 Clip #8: copper alloy, gold over nickel plated,
 Quadrax contact retention: 155N min,
 Quadrax contact insertion force: 11N max,
 Contact to shell conductivity <math><10\text{m}\Omega</math>,
 Protruding alignment key,
 Crimp and PC tail versions,
 Fiber optic upgrade possible with Elio 8 adaptor and Elio fiber optic contact.

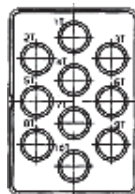


Layouts

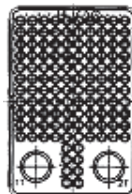
Cavity A, B, D, E of ARINC 600 size 2 and 3



I - Q11*

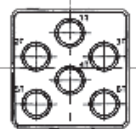


I - Q10*

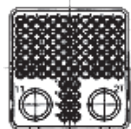


I - 118Q2

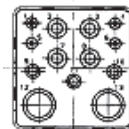
Cavity C, F of ARINC 600 size 2 and 3



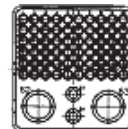
II - Q6*



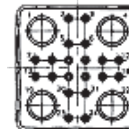
II - 68Q2



II - 11Q2



II - 62Q2



II - 20Q4

* Grounded metal insert

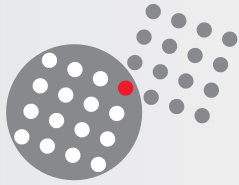
Contact layouts

#8 «Quadrax» type cavities are compatible with all standard #8 coaxial, triaxial, ELIO 8 and Quadrax contacts.

Insert name	ARINC 600 Cavity	Receptacle	Plug	Number of cavities				
		contact release	contact release	#22	#20	#16	#12	#8 «Quadrax» type
I-Q11	A, B, D, E	Front/Rear	Rear					11
I-Q10	A, B, D, E	Front/Rear	Rear					10
I-118Q2	A, B, D, E	Front	Rear	118				2
II-Q6	C, F	Front/Rear	Rear					6
II-68Q2	C, F	Front	Rear	68				2
II-11Q2	C, F	Front	Rear		4	3	4	2
II-62Q2	C, F	Front	Rear	60		2		2
II-20Q4	C, F	Front	Rear		20			4

Ordering information Please consult us to get the part numbers of the assembly you need.

MIL-DTL-38999 with Quadrax Contact



Mechanical

Standard D38999 shell,
 Standard D38999 insulator (Thermoplastic, thermoset) or specific grounded metallic insert,
 Clip #8: copper alloy (gold plated),
 In-line alignment key.



Layouts

11-81	17-81	17-82	21-84	25-82	25-80	25-81	25-86	25-88
1#8 Quadrax	32#22D 1#8 Quadrax	2#8 Quadrax	4#8 Quadrax	97#22D 2#8 Quadrax	10#20 - 4#12 13#16 3#8 Quadrax	22#22D - 3#20 11#16 - 2#12 3#8 Quadrax	40#20 4#16 2#8 Quadrax	8#8 Quadrax

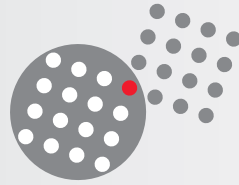
Ordering information

Basic series	8D	0	Q	21	W	84	P	N	308
Style	0 - square flange receptacle 5 - plug with RFI shielding 7 - Jam nut receptacle (except composite version)								
Type	Q - crimp C - PC tail								
Shell size	11, 17, 21, 25								
Plating									
Aluminium:	W - olive green cadmium			F - nickel		L - black zinc nickel			
	Z - green zinc cobalt								
Composite:	J - olive green cadmium			M - nickel		X - without plating			
Stainless steel:	K - corrosion resistant			S - nickel					
Titanium:	TT - without plating			TF - nickel					
Insert arrangement	(see above)								
Contact type	P - pin		A - male connector supplied without quadrax contact						
	S - socket		B - female connector supplied without quadrax contact						
Orientation	N - A - B - C - D - E								
Specification	284 - quadrax grounded contact (100Ω) 308 - quadrax not grounded contact (100Ω) 384 - quadrax grounded contact (150Ω) 408 - quadrax not grounded contact (150Ω)								

JVS bronze

Basic series	JVS	Q	00A	21	84	P	N	308
Type	Q - crimp C - PC tail							
Style	00A - square flange receptacle 07A - jam nut receptacle 16A - plug							
Shell size	11, 17, 21, 25							
Insert arrangement	(see above)							
Contact type	P - pin		A - male connector supplied without quadrax contact					
	S - socket		B - female connector supplied without quadrax contact					
Orientation	N - A - B - C - D - E							
Specification	284 - quadrax grounded contact (100Ω) 308 - quadrax not grounded contact (100Ω) 384 - quadrax grounded contact (150Ω) 408 - quadrax not grounded contact (150Ω)							

EN2997 with Quadrax Contact

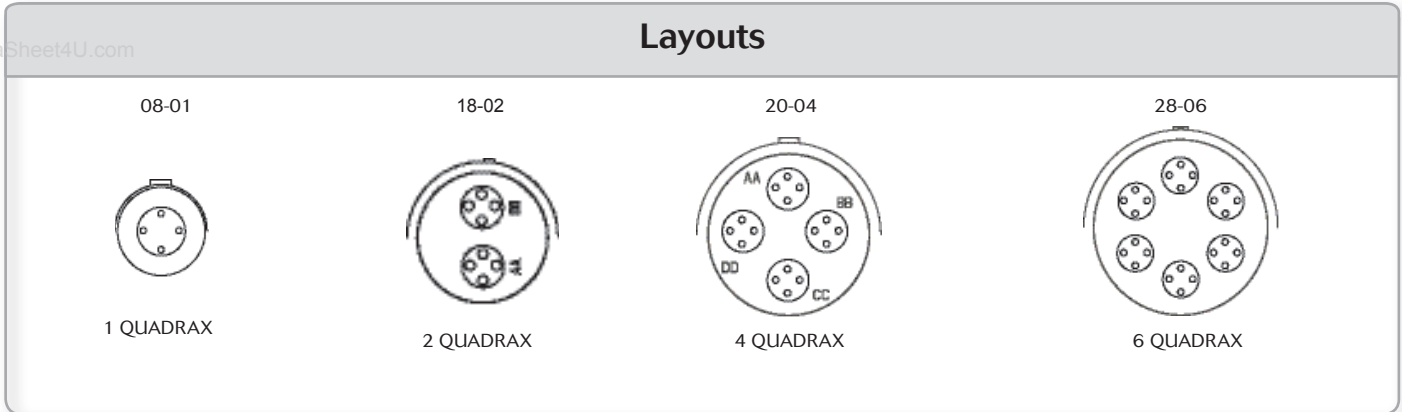


Mechanical

Robust EN2997 screw coupling system for high vibration applications,
 Compliant with ABS 1340-1343, ABS 1426-1427,
 Airbus qualified ABS 0973 and AB0974 crimp quadrax contacts,
 Specific 260°C quadrax contact version available,
 Protruding alignment key.



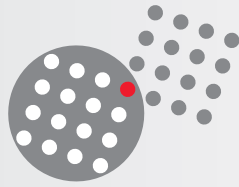
Layouts



Ordering information

	Layout	Circular plug		Square flange receptacle	
		SOURIAU PN	ABS PN	SOURIAU PN	ABS PN
Aluminium version	18-02	8533 3RS 1802PNL	ABS 1343 C1802NF	8533 ORS 1802PNL	ABS 1426 C1802NF
		8533 3RS 1802PN126	ABS 1343 P1802N	8533 ORS 1802PNL126	ABS 1426 P1802N
		8533 3RS 1802SNL	ABS 1343 D1802NF	8533 ORS 1802SNL	ABS 1426 D1802NF
		8533 3RS 1802SN126	ABS 1343 S1802N	8533 ORS 1802SN126	ABS 1426 S1802N
	20-04	8533 3RS 2004PNL	ABS 1343 C2004NF	8533 ORS 2004PNL	ABS 1426 C2004NF
		8533 3RS 2004PN126	ABS 1343 P2004N	8533 ORS 2004PN126	ABS 1426 P2004N
		8533 3RS 2004SNL	ABS 1343 D2004NF	8533 ORS 2004SNL	ABS 1426 D2004NF
		8533 3RS 2004SN126	ABS 1343 S2004N	8533 ORS 2004SN126	ABS 1426 S2004N
	28-06	8533 3RS 2806PNL	ABS 1343 C2806NF	8533 ORS 2806PNL	ABS 1426 C2806NF
8533 3RS 2806PN126		ABS 1343 P2806N	8533 ORS 2806PN126	ABS 1426 P2806N	
8533 3RS 2806SNL		ABS 1343 D2806NF	8533 ORS 2806SNL	ABS 1426 D2806NF	
8533 3RS 2806SN126		ABS 1343 S2806N	8533 ORS 2806SN126	ABS 1426 S2806N	
Stainless steel version	08-01	8533 3ES 0801PN165	ABS 1340 P0801N	8533 OES 0801PN165	ABS 1427 P0801N
		8533 3ES 0801PNL165	ABS 1340 P0801NF	8533 OES 0801PNL165	ABS 1427 P0801 NF
		8533 3ES 0801SN165	ABS 1340 S0801N	8533 OES 0801SN165	ABS 1427 S0801N
		8533 3ES 0801SNL165	ABS 1340 S0801NF	8533 OES 0801SNL165	ABS 1427 S0801NF
	18-02	8533 3ES 1802PNL	ABS 1340 C1802NF	8533 OES 1802PNL	ABS 1427 C1802NF
		8533 3ES 1802PN126	ABS 1340 P1802N	8533 OES 1802PN126	ABS 1427 P1802N
		8533 3ES 1802SNL	ABS 1340 D1802NF	8533 OES 1802SNL	ABS 1427 D1802NF
		8533 3ES 1802SN126	ABS 1340 S1802N	8533 OES 1802SN126	ABS 1427 S1802N
	20-04	8533 3ES 2004PNL	ABS 1340 C2004NF	8533 OES 2004PNL	ABS 1427 C2004NF
		8533 3ES 2004PN126	ABS 1340 P2004N	8533 OES 2004PN126	ABS 1427 P2004N
		8533 3ES 2004SNL	ABS 1340 D2004NF	8533 OES 2004SNL	ABS 1427 D2004NF
		8533 3ES 2004SN126	ABS 1340 S2004N	8533 OES 2004SN126	ABS 1427 S2004N
	28-06	8533 3ES 2806PNL	ABS 1340 C2806NF	8533 OES 2806PNL	ABS 1427 C2806NF
		8533 3ES 2806PN126	ABS 1340 P2806N	8533 OES 2806PN126	ABS 1427 P2806N
		8533 3ES 2806SNL	ABS 1340 D2806NF	8533 OES 2806SNL	ABS 1427 D2806NF
		8533 3ES 2806SN126	ABS 1340 S2806N	8533 OES 2806SN126	ABS 1427 S2806N

EN3646 with Quadrax Contact



Mechanical

Smallest harsh environments Quadrax connector,
Bayonet coupling,
Per Airbus ABS1054 and ABS1057 and per EN3646,
Black anodized aluminium shell size 8,
Airbus qualified ABS 0973 and ABS 0974 crimp quadrax contact,
Protruding alignment key.

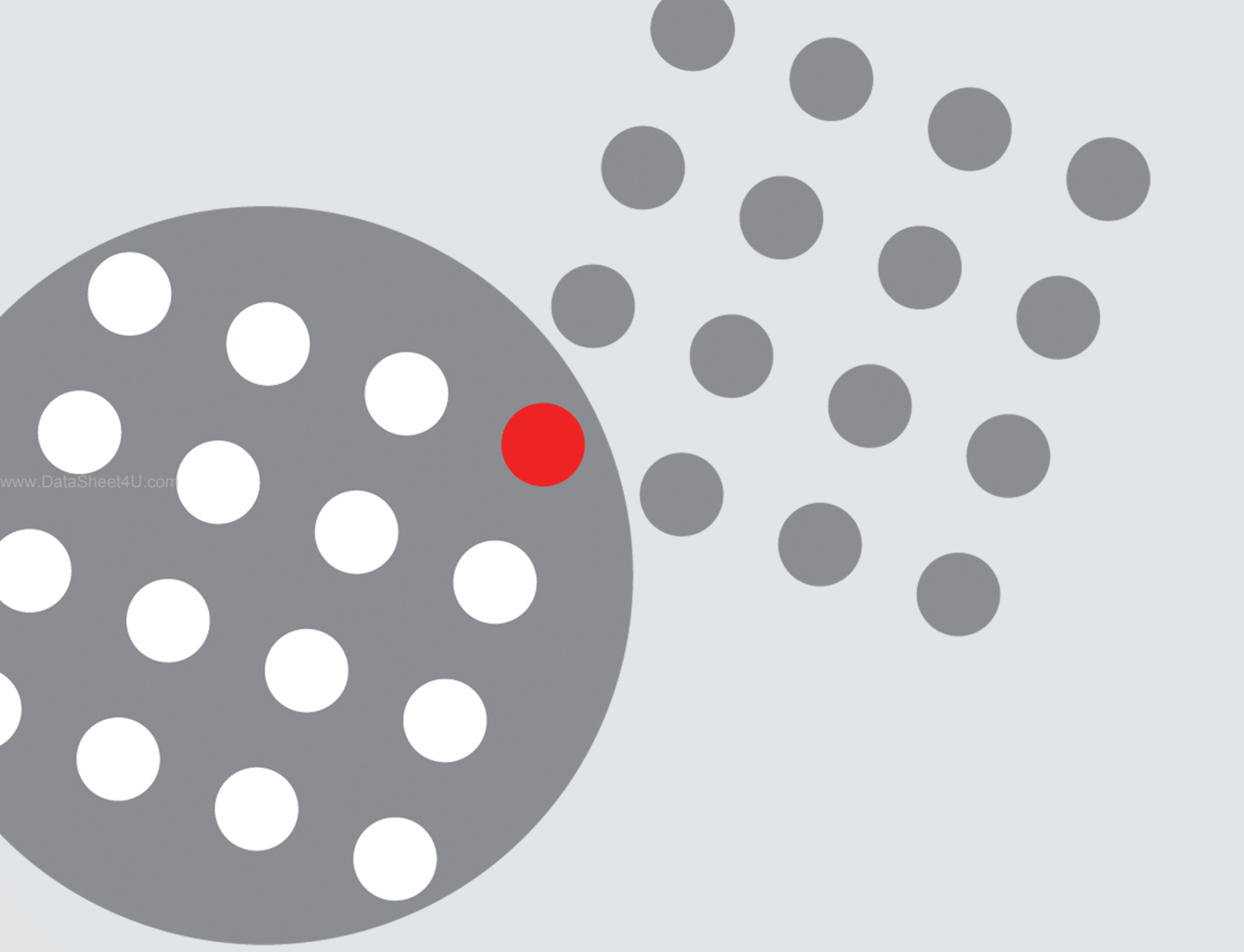


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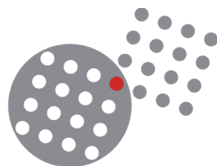
Ordering information

	Layout	SOURIAU PN	ABS PN
Circular plug	0801 (8B01)	8525 16R8B01SNHL164	ABS 1054 A60801 BN + ABS 1057-08A01
		8525 16R8B01SNH164	ABS 1054 A60801 FN + ABS 1057-08A01
Square flange receptacle	08-01 (8B01)	8525 10R8B01PNHL164	ABS 1054 A00801 AN + ABS 1057-08A01
		8525 10R8B01PNH164	ABS 1054 A00801 MN + ABS 1057-08A01



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