



PCB Sockets for A,B,C,D and G Series sensors

Technical Information

SENSOR TYPE	MANUFACTURER	BOTTOM	PCB HOLE SIZE mm(in)	TIN SHELL TIN CONTACTS	TIN SHELL GOLD CONTACTS	GOLD SHELL GOLD CONTACTS
D toxic	Cambion	Closed	1.40 (0.055)	450-3703-01-04-00	450-3703-01-06-00	450-3703-01-03-00
	Mill-Max	Closed	1.44(0.057)	0667-0-15-80-30-84-10-0	0667-0-15-80-30-27-10-0	0667-0-15-15-30-27-10-0
	Amp Tyco	Closed	1.32 (0.052)	5050462-7	5050462-8	50462-6
D pellistors	Cambion	Closed	1.93 (0.076)	450-3718-01-04-00	450-3718-01-06-00	450-3718-01-03-00
	Mill-Max	Closed	1.93 (0.076)	0294-0-15-80-06-80-10-0	0294-0-15-80-06-27-10-0	0294-0-15-15-06-27-10-0
	Mill-Max	Open	1.70 (0.067) hex press fit	9293-0-15-80-06-80-10-0	9293-0-15-80-06-27-10-0	9293-0-15-15-06-27-10-0
	Amp Tyco	Closed	1.57 (.062)	5050864-6	5050864-1	50864
	Harwin	Closed	1.91/1.96 (knurled)	H8501-46	H8501-01	H8501-05
	Harwin	Closed	1.91/1.96 (.075/.077)	H8504-46	H8504-01	H8504-05
A, C and G series	Cambion	Closed	2.59 (.102)	450-3326-01-04-00	450-3326-01-06-00	450-3326-01-03-00
	Mill-Max	Closed	2.54 (0.1)	0364-0-15-80-13-80-10-0	0364-0-15-80-13-27-10-0	0364-0-15-15-13-27-10-0
	Amp Tyco	Closed	2.59 (.102)	not available	not available	2-50871-2
B Series	Cambion	Closed	1.93 (.076)	450-3704-01-04-00	450-3704-01-06-00	450-3704-01-03-00
	Mill-Max	Open	2.35 (.092)	6628-0-18-80-18-80-10-0	6628-0-18-80-18-27-10-0	6628-0-18-15-18-27-10-0
	Mill-Max	Closed	1.91 (.075)	0327-0-15-80-34-80-10-0	0327-0-15-80-34-27-10-0	0327-0-15-15-34-27-10-0
	Amp Tyco	Closed	1.80 (.071)	5050865-8	5050865-5	50865

All sockets are EU RoHS/ELV compliant.

'D' Toxic sensors: An alternative is a single 4-way in-line socket, but as these sockets are designed for square pins, they may not provide the best contact. The sensor will also be spaced off the PCB by the thickness of the socket and will therefore need to be mechanically supported.

Harwin sockets are longer than required and engagement is minimal.

Tyco A sockets are longer than required but engage adequately.

NDIR pins are 1.57 mm diameter, not 1.50 mm. This is the top limit of the A series sockets and insertion/ extraction force must be tested. The Mill-Max socket allows up to 1.625 mm diameter.

This is not an exhaustive list and is for information and reference purposes only. Specifications and availability are subject to change and are outwith Alphasense's control.

SERIES	PIN DIAMETER (mm)	PIN LENGTH (mm)	PIN SPACING (mm)
D toxic	0.64	4.0	2.54 (0.1")
D pellistor	0.80	4.0	3.0 x 5.0
A series and O2-G1/2	1.50	4.3	See data sheets
B toxic	1.00	3.8	See data sheets
NDIR & PID	1.57	4.2	See data sheet

Please contact the appropriate supplier for current details.

- Cambion: <http://www.cambion.co.uk/Main/solder1.htm>
- Mill-Max: http://www.mill-max.com/pin_rec_catalog/search_results.cfm?pin_or_rec=rec&part_description=Receptacle%20with%20no%20Tail
- Harwin: <http://www.harwin.co.uk/>
- AmpTyco: <http://catalog.tycoelectronics.com/TE/bin/TE.Connect?C=114&P=&M=LIST&BML=10576,16358,17560,17578&LG=1&I=13&G=G>

Alphasense Ltd. Gas Sensor to Socket Cross Reference

Alphasense Ltd. Part Number	Andon Electronics Part Number <i>Replace "XXXX" with Terminal Style</i>	Terminal Style		Pin QTY.	Pin Ø [in]	Figure Number
		Thru-Hole	SMD			
CH-A3	R300-SP03-01-XXXX-R15-L14	436P55	440P55	3	.060	8
CH-D3	R196-SP04-01-XXXX-R15-L14	295V	439V	4	.030	30
CL2-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CL2-B1	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
CL3-D4	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31
CO2-D1	R200-SP03-03-XXXX-R15-L14	01S	93S	3	.025	24
CO-AE	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CO-AF	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CO-AX	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CO-BF	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
CO-BX	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
CO-CE	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CO-CF	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CO-CX	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
CO-D4	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31
D2	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31
ETO-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
ETO-B1	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
H2S-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
H2S-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
H2S-AE	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
H2S-AH	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
H2S-B1	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
H2S-BE	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
H2S-BH	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
H2S-D4	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31
HCN-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
HCN-D4	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31
IRC-A1	R450-SP07-01-XXXX-R15-L14	436P55	440P55	7	.060	17
NO2-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
NO2-AE	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
NO2-B1	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
NO-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
NO-AE	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
NO-B1	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
NO-D4	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31
O2-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
O2-A2	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
O2-A3	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
O2-C2	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
O2-G1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
O2-G2	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
PH3-A1	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
PH3-B1	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
PH3-BE	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
PID-A	R300-SP03-01-XXXX-R15-L14	436P55	440P55	3	.060	8
SO2-BF	R670-0804-01-XXXX-R15-L14	433E	285E	4	.040	7
SO2-AE	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
SO2-AF	R530-0403-01-XXXX-R15-L14	436P55	440P55	3	.060	10
SO2-D4	R300-SP04-02-XXXX-R15-L14	01S	93S	4	.025	31

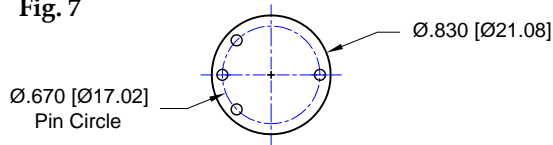
Alphasense Ltd. Gas Sensor Sockets

Sockets may have a notch for orientation purposes (not shown)

Top View Shown
(Not to Scale)

Units: in/[mm]

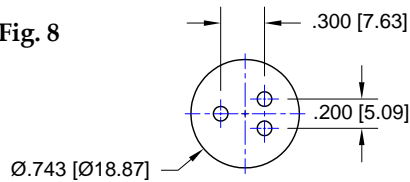
Fig. 7



R670-0804-01-433E-R15-L14 (for .040" Tail Ø)
R670-0804-01-285E-R15-L14 (for .040" Tail Ø)

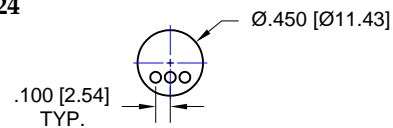


Fig. 8



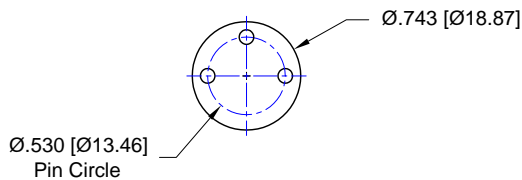
R300-SP03-01-436P55-R15-L14 (Thru-hole)
R300-SP03-01-440P55-R15-L14 (Surface Mount)

Fig.24



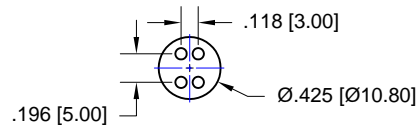
R200-SP03-03-01S-R15-L14 (Thru-hole)
R200-SP03-03-93S-R15-L14 (Surface Mount)

Fig. 10



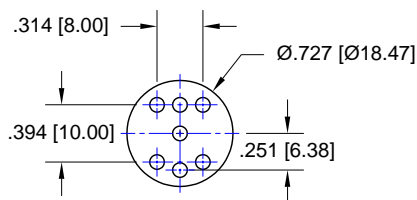
R530-0403-01-436P55-R15-L14 (Thru-hole)
R530-0403-01-440P55-R15-L14 (Surface Mount)

Fig.30



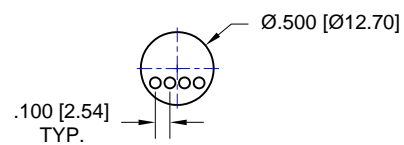
R196-SP04-01-295V-R15-L14 (Thru-hole)
R196-SP04-01-439V-R15-L14 (Surface Mount)

Fig. 17



R450-SP07-01-436P55-R15-L14 (Thru-hole)
R450-SP07-01-440P55-R15-L14 (Surface Mount)

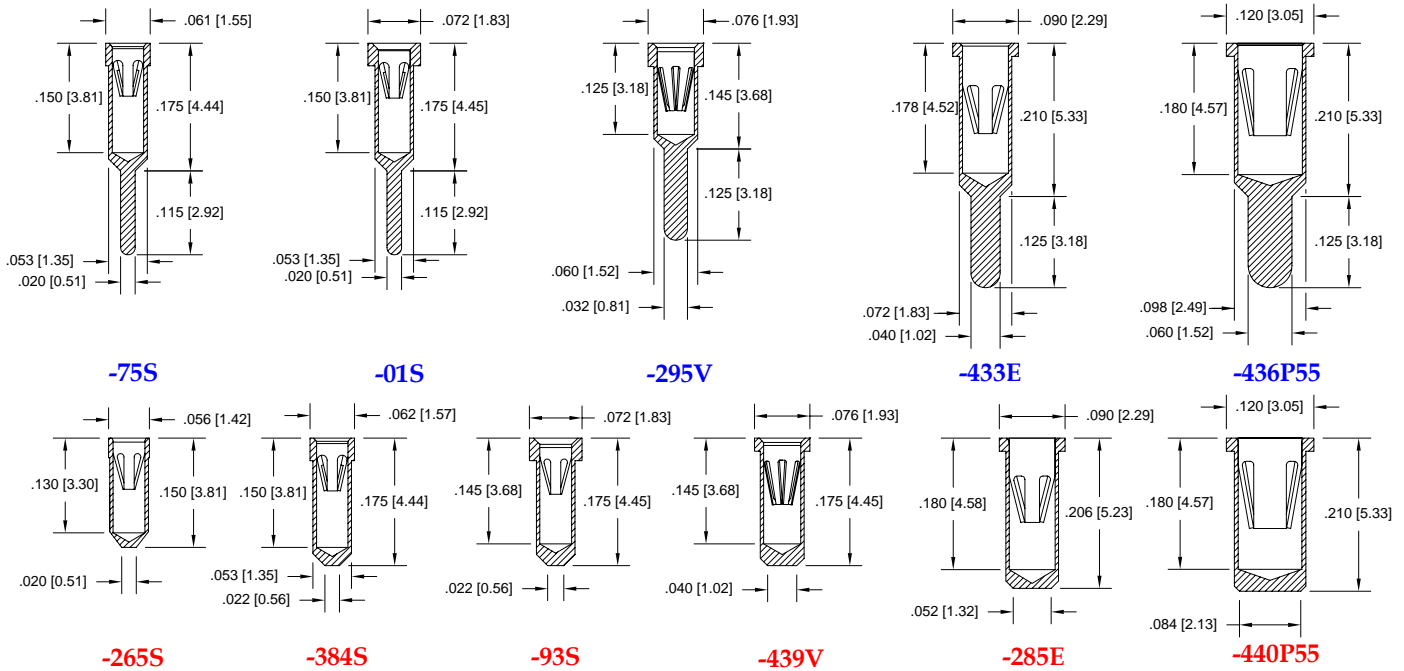
Fig.31



R300-SP04-02-01S-R15-L14 (Thru-hole)
R300-SP04-02-93S-R15-L14 (Surface Mount)

Socket Terminal Details

Cross Section View Shown



Terminal Acceptance and Forces							
Thru Hole Terminals				Surface Mount Terminals			
Thru Hole Terminal	Accepts Pin Diameter	Insertion Force	Withdrawal Force	Surface Mount Terminal	Accepts Pin Diameter	Insertion Force	Withdrawal Force
-01S	Ø.018 [Ø0.46]	9.0 oz Avg.	2.0 oz Min	-93S	Ø.018 [Ø0.46]	9.0 oz Avg.	2.0 oz Min
-75S	Ø.018 [Ø0.46]	9.0 oz Avg.	2.0 oz Min	-265S	Ø.018 [Ø0.46]	9.0 oz Avg.	2.0 oz Min
-295V	Ø.030 [Ø0.76]	13.2 oz Max	5.5 oz Min	-384S	Ø.018 [Ø0.46]	9.0 oz Avg.	2.0 oz Min
-433E	Ø.040 [Ø1.02]	36.0 oz Max	3.9 oz Min	-439V	Ø.030 [Ø0.76]	13.2 oz Max	5.5 oz Min
-436P55	Ø.060 [Ø1.52]	15.5 oz Max	2.1 oz Min	-285E	Ø.040 [Ø1.02]	36.0 oz Max	3.9 oz Min
				-440P55	Ø.060 [Ø1.52]	15.5 oz Max	2.1 oz Min

PLATING: RoHS COMPLIANT

R15 TERMINAL: GOLD CONTACT: GOLD

R17 TERMINAL: TIN CONTACT: GOLD

Socket Contacts developed by Andon Electronics Corporation over the past forty years for the Military and Aerospace industries, are produced in-house for a variety of pin diameters.

- Solder Andon sockets on the PCB and plug-in the Sensor after all other assembly and testing.
- Sockets available for all brands of sensors.
- Footprints are the same as the Sensor.
- Various terminal and socket sizes available: Thru-hole, Surface Mount and Low Profile Carrier Socket.

Improved Reliability

- Complete rework and testing without the sensor reduces risk of damage and loss.
- Enables easy field replacements and upgrades of sensors.
- Improve cash flow by volume PCB assembly cost savings; soldering Andon Sockets and buying Sensors as needed.