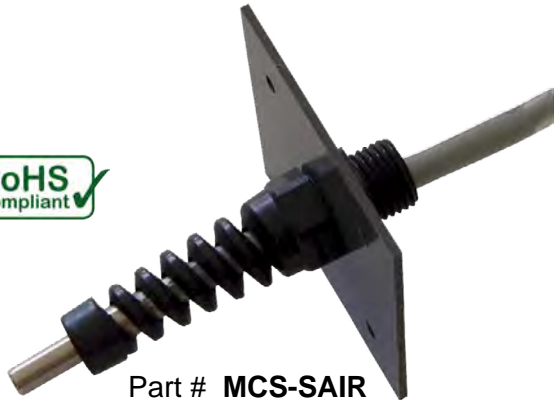




# MCS-SAIR

## Description & Specifications



Part # **MCS-SAIR**

### Description

The **MCS-SAIR** consists of a MCS-T100 temperature sensor with an air supply bracket. The mounting base is 2" x 2" for inserting into an air duct with 20' or 40' of two-conductor shielded cable.

The probe is an extremely fast acting thermistor and is packaged in a watertight stainless steel deep drawn tube. The sensor is potted with a thermally conductive RTV cure silicon adhesive to guarantee durability and response.

The large resistance range allows the use of over 1000' of cable with no noticeable effect. By placing a 100,000 ohm resistor between signal and ground the sensor may be used in a three-wire input mode. Its high accuracy allows for interchangeability in the field. The table below provides a cross reference between °F, ohms and vdc at a sensor input pin (S1) of a MCS micro controller.

### Specifications

- Standard Temperature Range ..... +32 to +158°F  
(0°C to +70°C)
- Standard Temperature Accuracy ... ±0.36°F (±0.2°C)
- Extended Temperature Range..... -40°F to +248°F  
(-40°C to 120°C)
- Extended Temperature Accuracy... ±1.5°F (±0.8°C)
- Resistance Range ..... 2 Meg to 286 ohms
- Response Time (32 to 212°F)..... 22 sec (in liquid)
- Response Time (212 to 32°F)..... 30 sec (in liquid)
- Input Voltage..... 5vdc
- Sensor Resistance..... 100,000 ohms @ 77°F (25°C)

### Cable

- Length..... 20', 40', 60', 100' or 150'
- Wire..... 2 conductor 22 awg stranded
- Shield..... Foil shield with 25% overlap
- Drain..... Stranded tinned copper drain

### Part number description when ordering (MCS-SAIR-xx)

- xx..... 20', 40', 60', 100' or 150'  
wire length

### Packaging

- Sensor (no cable)..... 0.12 lb -
  - with 20M ft cable 0.36 lb (approx)
  - with 40M ft cable 0.64 lb (approx)
  - with 60M ft cable 0.85 lb (approx)
  - with 100M ft cable 1.46 lb (approx)
  - with 150M ft cable 2.19 lb (approx)

Bag Dim. 10" x 10" x 4"

Temperature to Resistance to VDC Chart

Temp (°F)	Resist (ohms)	S1 (vdc)	Temp (°F)	Resist (ohms)	S1 (vdc)	Temp (°F)	Resist (ohms)	S1 (vdc)	Temp (°F)	Resist (ohms)	S1 (vdc)	Temp (°F)	Resist (ohms)	S1 (vdc)
21	491,039	0.846	37	302,535	1.242	53	191,021	1.718	69	123,406	2.238	85	81,454	2.756
22	476,042	0.868	38	293,758	1.270	54	185,753	1.750	70	120,169	2.271	86	79,420	2.787
23	461,550	0.890	39	285,263	1.298	55	180,647	1.782	71	117,027	2.304	87	77,444	2.818
24	447,544	0.913	40	277,040	1.326	56	175,696	1.814	72	113,977	2.337	88	75,522	2.849
25	434,007	0.936	41	269,080	1.355	57	170,897	1.846	73	111,015	2.369	89	73,654	2.879
26	420,922	0.960	42	261,373	1.384	58	166,243	1.878	74	108,139	2.402	90	71,838	2.910
27	408,271	0.984	43	253,910	1.413	59	161,730	1.910	75	105,347	2.435	91	70,072	2.940
28	396,041	1.008	44	246,684	1.442	60	157,353	1.943	76	102,634	2.467	92	68,355	2.970
29	384,214	1.033	45	239,686	1.472	61	153,109	1.975	77	100,000	2.500	93	66,685	3.000
30	372,778	1.058	46	232,908	1.502	62	148,991	2.008	78	97,441	2.532	94	65,060	3.029
31	361,718	1.083	47	226,342	1.532	63	144,997	2.041	79	94,955	2.565	95	63,480	3.058
32	351,020	1.109	48	219,982	1.563	64	141,123	2.074	80	92,541	2.597	96	61,943	3.088
33	340,672	1.135	49	213,820	1.593	65	137,363	2.106	81	90,194	2.629	97	60,448	3.116
34	330,661	1.161	50	207,850	1.624	66	133,715	2.139	82	87,915	2.661	98	58,993	3.145
35	320,976	1.188	51	202,063	1.655	67	130,175	2.172	83	85,699	2.693	99	57,577	3.173
36	311,604	1.215	52	196,456	1.687	68	126,740	2.205	84	83,546	2.724	100	56,200	3.201