

SUCO 0533 ELECTRONIC PRESSURE SWITCH

053310104B013
NPN output (Low Side), NC, 0-10 Bar, NPT 1/8, DIN EN 175301-803-A



- One Switching Output
- Stainless Steel & Titanium Wetted Parts
- Silicon-On-Sapphire Technology
- Factory Set



PRODUCT DESCRIPTION

The SUCO 0533 electronic pressure switch is a high-performance, factory-configured device built with a robust stainless steel (AISI 303) and titanium, all-welded housing. It utilises advanced Silicon-on-Sapphire (SoS) sensor technology for exceptional accuracy ($\pm 0.5\%$ FS, resolution 0.1% FS) and long-term stability ($\pm 0.1\%$ FS/year), and is designed to withstand overpressure up to $4\times$ its rated range. Available ranges span from 0–10 bar to a massive 0–1,650 bar, with a single NPN (low-side) normally-closed transistor output capable of handling up to 0.5 A and featuring built-in protections for short circuit, reverse polarity, and overvoltage. It supports multiple pressure port threads ($G\frac{1}{4}$, $NPT\frac{1}{2}/NPT\frac{1}{4}$, UNF, M10, M14) and electrical connectors (DIN EN 175301-803-A, M12, AMP Superseal, Deutsch, 2 m cable), and it offers a fast response time (< 4 ms) and wide compensated temperature range for stable operation across -40 °C to 125 °C.

The 0533 excels in harsh mobile-hydraulic, industrial, and pneumatic environments, such as construction machinery, off-road vehicles, or process systems, where rugged build and reliable switching under dynamic pressures are essential. Its compact design and robust sensor technology make it suitable for safety interlock circuits, pressure alarms, and automated shutdown controls in PLC or relay-based systems. The device's narrow switching hysteresis and optional window function enable precise range monitoring, while the heavy-duty housing and integrated protections ensure dependable performance in conditions involving vibration, wash-down, and electrical noise, making it an ideal choice for long-term OEM applications needing precise, rugged pressure monitoring.

TECHNICAL DATA

GENERAL DATA

Adjustment range max	10 bar
Adjustment range min	0 bar
Electrical connection	DIN EN 175301-803-A
Process connection	1/8 NPT
Function	Normally Closed
Output	NPN
Burst pressure	80 bar
Pressure max	40 bar

TEMPERATURE & MATERIALS DATA

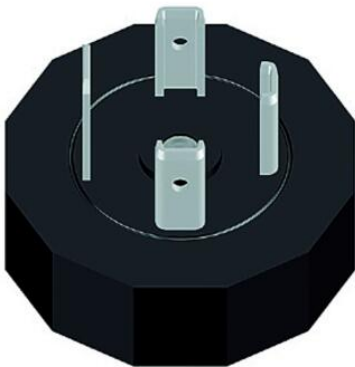
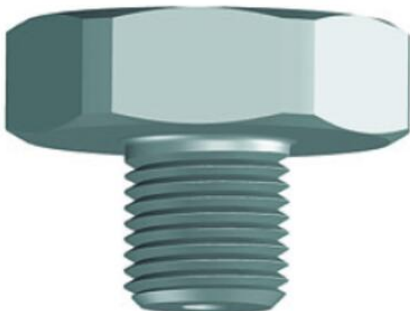
Temperature of media from	-40 °C
Temperature of media to	125 °C
Temperature ambient from	-40 °C
Temperature ambient to	100 °C
Material of body	Stainless steel 1.4305
Material of wetted parts	Stainless steel 1.4305, Titanium

ADDITIONAL DATA

Supply voltage dc max	32 V DC
Supply voltage dc min	9.6 V DC
Pressure rise	≤ 5,000 bar/s
Switching time	< 2 ms
Switching point adjustment range	2 ... 100 % of the nominal pressure range Full Scale (FS), programmable at factory
Weight	110 g

SAFETY & APPROVALS

IP class	IP65
Hysteresis	2..99.8% of nominal pressure range (full scale), programmable at factory
Shock resistance	500m / s²; 11 ms half sine wave; DIN EN 60068-2-27
Vibration resistance	20g; 4..2000 Hz sine wave, DIN EN 60068-2-6
EMC	EMC 2014/30/EU, EN 61000-6-2:2005, EN 61000-6-3:2007
Accuracy	±0.5 % of adjustment range (Full scale) at room temperature
Long term stability	±0.1 % of adjustment range (full scale) per year
Mechanical life expectancy	10,000,000 switching cycles at rise rates to 5,000 bar/s nominal pressure
Repeatability	±0.1 % full scale



Connection diagrams



Technical modifications and errors excepted.

DIN EN 17530-803-A <table border="1"> <tr><th>Pin</th><th>Assignment</th></tr> <tr><td>1</td><td>Ch+</td></tr> <tr><td>2</td><td>Ch-</td></tr> <tr><td>3</td><td>Ch0</td></tr> <tr><td>4</td><td>Ch1</td></tr> <tr><td>5</td><td>Ch2</td></tr> <tr><td>6</td><td>Ch3</td></tr> <tr><td>7</td><td>Ch4</td></tr> <tr><td>8</td><td>Ch5</td></tr> <tr><td>9</td><td>Ch6</td></tr> <tr><td>10</td><td>Ch7</td></tr> <tr><td>11</td><td>Ch8</td></tr> <tr><td>12</td><td>Ch9</td></tr> <tr><td>13</td><td>Ch10</td></tr> <tr><td>14</td><td>Ch11</td></tr> <tr><td>15</td><td>Ch12</td></tr> <tr><td>16</td><td>Ch13</td></tr> <tr><td>17</td><td>Ch14</td></tr> <tr><td>18</td><td>Ch15</td></tr> <tr><td>19</td><td>Ch16</td></tr> <tr><td>20</td><td>Ch17</td></tr> <tr><td>21</td><td>Ch18</td></tr> <tr><td>22</td><td>Ch19</td></tr> <tr><td>23</td><td>Ch20</td></tr> <tr><td>24</td><td>Ch21</td></tr> <tr><td>25</td><td>Ch22</td></tr> <tr><td>26</td><td>Ch23</td></tr> <tr><td>27</td><td>Ch24</td></tr> <tr><td>28</td><td>Ch25</td></tr> <tr><td>29</td><td>Ch26</td></tr> <tr><td>30</td><td>Ch27</td></tr> <tr><td>31</td><td>Ch28</td></tr> <tr><td>32</td><td>Ch29</td></tr> <tr><td>33</td><td>Ch30</td></tr> <tr><td>34</td><td>Ch31</td></tr> <tr><td>35</td><td>Ch32</td></tr> <tr><td>36</td><td>Ch33</td></tr> <tr><td>37</td><td>Ch34</td></tr> <tr><td>38</td><td>Ch35</td></tr> <tr><td>39</td><td>Ch36</td></tr> <tr><td>40</td><td>Ch37</td></tr> <tr><td>41</td><td>Ch38</td></tr> <tr><td>42</td><td>Ch39</td></tr> <tr><td>43</td><td>Ch40</td></tr> <tr><td>44</td><td>Ch41</td></tr> <tr><td>45</td><td>Ch42</td></tr> <tr><td>46</td><td>Ch43</td></tr> <tr><td>47</td><td>Ch44</td></tr> <tr><td>48</td><td>Ch45</td></tr> <tr><td>49</td><td>Ch46</td></tr> <tr><td>50</td><td>Ch47</td></tr> <tr><td>51</td><td>Ch48</td></tr> <tr><td>52</td><td>Ch49</td></tr> <tr><td>53</td><td>Ch50</td></tr> <tr><td>54</td><td>Ch51</td></tr> <tr><td>55</td><td>Ch52</td></tr> <tr><td>56</td><td>Ch53</td></tr> <tr><td>57</td><td>Ch54</td></tr> <tr><td>58</td><td>Ch55</td></tr> <tr><td>59</td><td>Ch56</td></tr> <tr><td>60</td><td>Ch57</td></tr> <tr><td>61</td><td>Ch58</td></tr> <tr><td>62</td><td>Ch59</td></tr> <tr><td>63</td><td>Ch60</td></tr> <tr><td>64</td><td>Ch61</td></tr> <tr><td>65</td><td>Ch62</td></tr> <tr><td>66</td><td>Ch63</td></tr> <tr><td>67</td><td>Ch64</td></tr> <tr><td>68</td><td>Ch65</td></tr> <tr><td>69</td><td>Ch66</td></tr> <tr><td>70</td><td>Ch67</td></tr> <tr><td>71</td><td>Ch68</td></tr> <tr><td>72</td><td>Ch69</td></tr> <tr><td>73</td><td>Ch70</td></tr> <tr><td>74</td><td>Ch71</td></tr> <tr><td>75</td><td>Ch72</td></tr> <tr><td>76</td><td>Ch73</td></tr> <tr><td>77</td><td>Ch74</td></tr> <tr><td>78</td><td>Ch75</td></tr> <tr><td>79</td><td>Ch76</td></tr> <tr><td>80</td><td>Ch77</td></tr> <tr><td>81</td><td>Ch78</td></tr> <tr><td>82</td><td>Ch79</td></tr> <tr><td>83</td><td>Ch80</td></tr> <tr><td>84</td><td>Ch81</td></tr> <tr><td>85</td><td>Ch82</td></tr> <tr><td>86</td><td>Ch83</td></tr> <tr><td>87</td><td>Ch84</td></tr> <tr><td>88</td><td>Ch85</td></tr> <tr><td>89</td><td>Ch86</td></tr> <tr><td>90</td><td>Ch87</td></tr> <tr><td>91</td><td>Ch88</td></tr> <tr><td>92</td><td>Ch89</td></tr> <tr><td>93</td><td>Ch90</td></tr> <tr><td>94</td><td>Ch91</td></tr> <tr><td>95</td><td>Ch92</td></tr> <tr><td>96</td><td>Ch93</td></tr> <tr><td>97</td><td>Ch94</td></tr> <tr><td>98</td><td>Ch95</td></tr> <tr><td>99</td><td>Ch96</td></tr> <tr><td>100</td><td>Ch97</td></tr> </table> <p>Order number: 001</p>	Pin	Assignment	1	Ch+	2	Ch-	3	Ch0	4	Ch1	5	Ch2	6	Ch3	7	Ch4	8	Ch5	9	Ch6	10	Ch7	11	Ch8	12	Ch9	13	Ch10	14	Ch11	15	Ch12	16	Ch13	17	Ch14	18	Ch15	19	Ch16	20	Ch17	21	Ch18	22	Ch19	23	Ch20	24	Ch21	25	Ch22	26	Ch23	27	Ch24	28	Ch25	29	Ch26	30	Ch27	31	Ch28	32	Ch29	33	Ch30	34	Ch31	35	Ch32	36	Ch33	37	Ch34	38	Ch35	39	Ch36	40	Ch37	41	Ch38	42	Ch39	43	Ch40	44	Ch41	45	Ch42	46	Ch43	47	Ch44	48	Ch45	49	Ch46	50	Ch47	51	Ch48	52	Ch49	53	Ch50	54	Ch51	55	Ch52	56	Ch53	57	Ch54	58	Ch55	59	Ch56	60	Ch57	61	Ch58	62	Ch59	63	Ch60	64	Ch61	65	Ch62	66	Ch63	67	Ch64	68	Ch65	69	Ch66	70	Ch67	71	Ch68	72	Ch69	73	Ch70	74	Ch71	75	Ch72	76	Ch73	77	Ch74	78	Ch75	79	Ch76	80	Ch77	81	Ch78	82	Ch79	83	Ch80	84	Ch81	85	Ch82	86	Ch83	87	Ch84	88	Ch85	89	Ch86	90	Ch87	91	Ch88	92	Ch89	93	Ch90	94	Ch91	95	Ch92	96	Ch93	97	Ch94	98	Ch95	99	Ch96	100	Ch97	M 12 - 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