ASH 1207077 C001  
exida hereby confirms that the:

A-Series Pressure Switch  
Ashcroft Inc.  
Stratford, CT - USA

Has been assessed per the relevant requirements of:  
IEC 61508 : 2010   Parts 1-2  
and meets requirements providing a level of integrity to:  

Systematic Capability: SC 3 (SIL 3 Capable)  
Random Capability: Type A, Route 2H Device  
PFH/PFD_{avg} and Architecture Constraints  
must be verified for each application

Safety Function:  
The A-Series Switch will de-energize the associated circuit  
when the trip pressure is reached. The de-energized switch position is with the NC switch contact open on a high pressure trip, or the NO switch contact open on a low pressure trip.  

Application Restrictions:  
The unit must be properly designed into a Safety Instrumented Function per the Safety Manual requirements.
Systematic Capability: SC 3 (SIL 3 Capable)

Random Capability: Type A, Route 2_H Device

PFH/PFD_{avg} and Architecture Constraints must be verified for each application

Systematic Capability:
The product has met manufacturer design process requirements of Safety Integrity Level (SIL) 3. These are intended to achieve sufficient integrity against systematic errors of design by the manufacturer.

A Safety Instrumented Function (SIF) designed with this product must not be used at a SIL level higher than stated.

Random Capability:
The SIL limit imposed by the Architectural Constraints must be met for each element. This device meets exida criteria for Route 2_H.

IEC 61508 Failure Rates in FIT*

<table>
<thead>
<tr>
<th>Single Switch</th>
<th>λ_{SD}</th>
<th>λ_{su}</th>
<th>λ_{DD}</th>
<th>λ_{DU}</th>
<th>#</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-1 High Trip</td>
<td>0</td>
<td>26</td>
<td>0</td>
<td>89</td>
<td>67</td>
</tr>
<tr>
<td>S-1 Low Trip</td>
<td>0</td>
<td>88</td>
<td>0</td>
<td>51</td>
<td>50</td>
</tr>
<tr>
<td>S-2 High Trip</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>68</td>
<td>65</td>
</tr>
<tr>
<td>S-2 Low Trip</td>
<td>0</td>
<td>70</td>
<td>0</td>
<td>48</td>
<td>48</td>
</tr>
<tr>
<td>BV-1 High Trip</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>128</td>
<td>290</td>
</tr>
<tr>
<td>BV-1 Low Trip</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>78</td>
<td>273</td>
</tr>
<tr>
<td>BV-2 High Trip</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>139</td>
<td>309</td>
</tr>
<tr>
<td>BV-2 Low Trip</td>
<td>0</td>
<td>100</td>
<td>0</td>
<td>88</td>
<td>292</td>
</tr>
<tr>
<td>BV-3 High Trip</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>173</td>
<td>279</td>
</tr>
<tr>
<td>BV-3 Low Trip</td>
<td>0</td>
<td>130</td>
<td>0</td>
<td>92</td>
<td>262</td>
</tr>
</tbody>
</table>

* FIT = 1 failure / 10^9 hours

SIL Verification:
The Safety Integrity Level (SIL) of an entire Safety Instrumented Function (SIF) must be verified via a calculation of PFH/PFD_{avg} considering redundant architectures, proof test interval, proof test effectiveness, any automatic diagnostics, average repair time and the specific failure rates of all products included in the SIF. Each element must be checked to assure compliance with minimum hardware fault tolerance (HFT) requirements.

The following documents are a mandatory part of certification:

Assessment Report: ASH 16/02-007 R002 V3 R1 (or later)

Safety Manual: I&M009-10210