



Product Service

CERTIFICATE

No. Z10 17 05 96051 001

Holder of Certificate: Tri-Sen Systems Corporation

109 Magellan Circle
Webster TX 77598
USA

Factory(ies):

96051

Certification Mark:



Product:

Safety components

Model(s):

**Turbine Hydraulic Trip System TetraSentry
For nomenclature see attachment**

Parameters:

Performance	
System Cv:	9.8 minimum, 20 normal operation
Voltage:	24 VDC ... ± 10%
Power consumption:	8W-33W per valve, 32W-132W system
Operating pressure:	3psig-1500psig (depending on connection)
Trip block response time, typical:	25-35ms to 30psig, 80ms to reach 1.5psig
Safety Performance	
Life time:	20 years
HFT:	1
Proof Test Interval:	1 month
PFH:	3 FIT
PFDavg:	3.4 E-06
Environmental conditions	
Ambient temperature max:	+70°C
Oil temperature max:	+80°C ... note phosphate ester fluid limits
Oil cleanliness:	NAS 10 tolerant, recommended, ISO 16/13
Filtration:	Dual 74 micron included for sensitive components

Tested

according to:

IEC 61508-1(ed.2)
IEC 61508-2(ed.2)
IEC 61511-1(ed.2)

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition the certification holder must not transfer the certificate to third parties. See also notes overleaf.

Test report no.:

TH90319T

Valid until:

2022-05-16

Date, 2017-05-18

(Jürgen Blum)



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**ATTACHMENT TO CERTIFICATE
No. Z10 17 05 96051 001**

Nomenclature of Tetra-Sentry

PART NUMBER:	1)	2)	3)	4)	5)	6)	7)	8)	9)	10)	11)	12)	13)	14)
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- 1) Manifold Material
 - A ... Aluminum
 - D ... Ductile Iron
 - S ... 416 SS
- 2) Operating Pressure
 - 30 ... 0-30 psig
 - 150 ... 5-250 psig
 - 450 ... 5-450 psig
 - 600 ... 5-600 psig
- 3) Area Classification
- 4) Voltage Type
 - LD ... 24 VDC
 - LD ... 28 VDC
 - LD ... 48 VDC
 - HD ... 110 VDC
 - HD ... 125 VDC
 - HD ... 220 VDC
 - LA ... 24 VAC
 - LA ... 28 VAC
 - LA ... 48 VAC
 - HA ... 110 VAC
 - HA ... 115 VAC
 - HA ... 120 VAC
 - HA ... 125 VAC
 - HA ... 230 VAC
- 5) Power Consumption
 - 30 ... 30 – 33 W (per solenoid valve)
 - 8 ... 8-12 W

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- 6) Wetted Materials (SOV)
 - C ... CS/CS/CS
 - S ... SS/SS/CS
 - X ... SS/SS/SS
- 7) Service Valve Materials
 - P ... Painted Steel
 - N ... Stainless
- 8) Junction Box
 - S ... 316 SS
 - C ... Composite
- 9) Diagnostic Transmitter
 - 20 N ... 2088 [no LCD]
 - 20 W ... 2088 [w/LCD]
 - 30 W ... 3051 [w/LCD]
 - 30 S ... 3051 [w/LCD]
 - 40 V ... Alternative Vendor
 - 40 X ... omit
- 10) Trip Header Transmitter
 - N ... no XMTR
 - S ... 1 XMTR
 - D ... 2 XMTR
 - T ... 3 XMTR
- 11) Test Sequence
- 12) Interface Manifold
 - X ... Omit
 - L ... Aluminium
 - D ... Ductile Iron
 - S ... 416 SS
- 13) Elastomer Type
 - B ... Buna
 - V ... Viton
- 14) Installation Location
 - C ... Covered Location
 - W ... Weather Expose