

EC-TYPE EXAMINATION CERTIFICATE



[1]

[2]

**Equipment or Protective System intended for use
in Potentially Explosive Atmospheres
Directive 94/9/EC**

[3]

EC-Type Examination Certificate Number: **DEMKO 06 ATEX 137480X Rev. 0**

[4]

Equipment or Protective System: **Leak Detection Systems for Flammable Liquid Storage Tanks and Piping**

[5]

Manufacturer: **Veeder-Root Co.**

[6]

Address: **2709 Route 764, Duncansville, PA 16635 USA**

[7]

This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

[8]

UL International Demko A/S, notified body number 0539 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential report no. **11NK11659**

[9]

Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

**EN 60079-0:2006
EN 60079-25:2004**

**EN 60079-11:2007
EN 60079-26:2007**

[10]

If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

[11]

This EC-Type examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by the certificate.

[12]

The marking of the equipment or protective system shall include the following:

II (1) G [Ex ia] IIA

II 1 G Ex ia IIA T4

Certification Manager

Jan-Erik Storgaard

Date of issue: 2006-03-05

Re-issued: 2011-12-08

Notified Body

UL International Demko A/S, Borupvang 5A, 2750 Ballerup, Denmark
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Schedule
EC-TYPE EXAMINATION CERTIFICATE No.
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Description of Equipment or protective system

The Leak Detection System consists of a TLS-450/8600, TLS-350, TLS-300, TLS-50, TLS-2, TLS-IB or 8601 Console with a TLS-RF Console, probes, sensors and/or simple apparatus. The TLS-RF System consists of a TLS-Battery, TLS-Transmitter and a probe. The systems are intended to provide monitoring of flammable liquid storage tanks and piping for leakage and inventory control. The simple apparatus used with this system are not identified by this certificate. Each Associated Apparatus and Intrinsic Safety Apparatus intended for use within this Intrinsic Safety System are described in their respective EC-Type Examination Certificates.

Types comprised by the certificate:

The TLS-450 Leak Detection System consists of:

Tank Monitoring Console, Model TLS-450/8600 or TLS-450R, Series 8600

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 07 ATEX 16184X

Tank Monitoring Console, Model TLS-RF, Series 332242

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137478X

Mag Plus Probe, Series 8462 or 8463 or 8473 or 8563 or Mag Sump Sensor, Series 8570

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 0508841X

DPLLD Line Leak, Series 8590

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 07 ATEX 141031X

Solid State Sensor, Series 794360-343 or 794360-344

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 137479X

Vacuum Sensor, Model 332175-XXX

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 07 ATEX 29144X

The TLS-350 Leak Detection System consists of:

Tank Monitoring Console, Model TLS-350, Series 8470 or TLS-350R, Series 8482

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137481X

Tank Monitoring Console, Model TLS-RF, Series 332242

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137478X

Mag Plus Probe, Series 8462 or 8463 or 8473 or 8563 or Mag Sump Sensor, Series 8570

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 0508841X

PLLD Line Leak, Series 8484

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 137486X

Solid State Sensor, Series 794360-343 or 794360-344

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 137479X

Vacuum Sensor, Model 332175-XXX

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 07 ATEX 29144X



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The TLS-300 Leak Detection System consists of:

Tank Monitoring Console, Models TLS-300, Series 8485

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137484X

Tank Monitoring Console, Model TLS-RF, Series 332242

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137478X

Mag Plus Probe, Series 8462 or 8463 or 8473 or 8563 or Mag Sump Sensor, Series 8570

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 0508841X

Solid State Sensor, Series 794360-343 or 794360-344

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 137479X

The TLS-50 Leak Detection System consists of:

Tank Monitoring Console, Models TLS-50, Series 8469 or TLS2, Series 8560 or TLS-IB, Series 8466

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137485X

Tank Monitoring Console, Model TLS-RF, Series 332242

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 06 ATEX 137478X

Mag Plus Probe, Series 8462 or 8463 or 8473 or 8563 or Mag Sump Sensor, Series 8570

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 0508841X

The TLS-RF System consists of:

TLS Radio Transmitter, Series 332235-XXX, or Battery Pack, Series 332425-XXX

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 137478X

Mag Plus Probe, Series 8462 or 8463 or 8563 or Mag Sump Sensor, Series 8570

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 0508841X

The 8601 Leak Detection System consists of:

Tank Monitoring Console, Series 8601

[Ex ia] IIA

Supply: 120/240 V, 50/60 Hz

EC-Type Examination Certificate No. DEMKO 11 ATEX 11659X

Mag Plus Probe, Series 8462 or 8463 or 8473 or 8563 or Mag Sump Sensor, Series 8570

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 0508841X

DPLLD Line Leak, Series 8590

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 07 ATEX 141031X

Solid State Sensor, Series 794360-343 or 794360-344

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 06 ATEX 137479X

Vacuum Sensor, Model 332175-XXX

Ex ia IIA T4

EC-Type Examination Certificate No. DEMKO 07 ATEX 29144X



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Temperature range

The ambient range for all TLS Consoles is 0 °C ≤ Ta ≤ 40 °C

The ambient range for all the intrinsically safe devices: Mag Plus Probes, Mag Sump Sensor, PLLD Line Leak Sensors, TLS-Transmitter, TLS-Battery and Solid State Sensors, is -40 °C ≤ Ta ≤ +60 °C.

Installation instructions

The associated apparatus and intrinsically safe devices must be installed in accordance with the descriptive system documents. Each system is associated to the following drawings:

- TLS-450 Drawing No. 331940-006
- TLS-350: Drawing No. 331940-001
- TLS-300: Drawing No. 331940-002
- TLS-50: Drawing No. 331940-003
- TLS-RF: Drawing No. 331940-005

Mounting instructions

None

Routine tests

None

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Report No.

Project Report No.: 11NK11659 (Hazardous Location Testing)

Documents:

Description:	Drawing No.:	Rev. Level:	Date:
Descriptive System Document TLS-450 Series	331940-006	A	2007-08-16
Descriptive System Document TLS-350 Series	331940-001	G	2010-04-28
Descriptive System Document TLS-300 Series	331940-002	B	2006-02-21
Descriptive System Document TLS-50, TLS2 and TLS-IB Series	331940-003	B	2006-02-21
Descriptive System Document TLS-RF Series	331940-005	A	2006-02-21
Descriptive System Document 8601 Series	331940-017	A	2011-07-15

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Special conditions for safe use:

- These devices must be installed as part of the intrinsic safety system as defined in the descriptive system documents, indicated in this certificate. Additional conditions for safe use may be specified on the individual device certificates and in the installation manual.
- The descriptive system documents include references to simple apparatus. Simple apparatus used with these systems must not contain any inductance or capacitance and must also comply with all requirements indicated in the system descriptive document.
- A risk analysis must be performed to determine if the installation location is susceptible to lightning or other electric surges. If necessary, protection against lightning and other electric surges must be provided in accordance with EN 60079-25: 2005.
- The following condition of safe use applies to the Mag Probe or Mag Sump Sensor, Vacuum Sensor, TLS-RF Battery and TLS-RF Transmitter: Before installing or taking into a hazardous area, earth the unit in a Safe Area to remove any static charge. Then immediately transport the unit to the installation site; do not rub or clean the unit prior to installation. Cleaning is not required under normal service conditions; do not rub or clean the device after installation. If the unit is not fixed to a known earth point when installed, ensure that a separate earth connection is made to prevent the potential of static discharge. When fitting or removing the unit, use of anti-static footwear and clothing is required.
- The maximum cable length between the TLS-RF Battery and TLS-RF Transmitter must be less than 7.6 m.
- The ambient range for the TLS -450/8600, -350, -300, -50, -IB, -2 -RF and 8601 consoles is 0 °C ≤ Ta ≤ +40 °C.
- For the TLS-450/8600, -350, -300, -50, -IB, -2, RF and 8601, all covers must be in place in both the intrinsically safe and unspecified circuit field wiring compartments to ensure safe operation.
- For the TLS-450/8600 and TLS-350 all modules must be in place in both the intrinsically safe and unspecified circuit field wiring compartments to ensure safe operation.
- The intrinsically safe devices have not been evaluated for use across a boundary wall.
- The Mag Probe and Mag Sump Sensor enclosures contain aluminum. Care must be taken to avoid ignition hazards due to impact or friction.



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Essential Health and Safety Requirements

Concerning ESR this Schedule verifies compliance with the ATEX directive only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

Additional information

An assessment was done on the parts of the system certified to the EN60079-26:2004 edition based on the list of significant changes provided in EN60079-26:2007 edition. Based on this, the parts of the system were upgraded to EN60079-26:2007 edition.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.



[1] **EG-Baumusterprüfbescheinigung (Übersetzung)**

[2] **Geräte und Schutzsysteme zur bestimmungsgemäßen
Verwendung in explosionsgefährdeten Bereichen
Richtlinie 94/9/EG**

[3] EG-Baumusterprüfbescheinigungsnummer: **DEMKO 06 ATEX 137480X Rev. 0**

[4] Gerät oder Schutzsystem: **Leckerkennungssystem für Lagertanks und Rohrleitungen für entzündliche Flüssigkeiten**

[5] Hersteller: **Veeder-Root Company**

[6] Adresse: **125 Powder Forest Drive, Simsbury, CT 06070**

[7] Die Bauart dieses Gerätes oder Schutzsystems sowie die verschiedenen zulässigen Ausführungen sind in der Anlage und den darin aufgeführten Unterlagen zu dieser Baumusterprüfbescheinigung festgelegt.

[8] UL International Demko A/S bescheinigt als benannte Stelle Nr. 0539 nach Artikel 9 der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 (94/9/EG) die Erfüllung der grundlegenden Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Geräten und Schutzsystemen zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen gemäß Anhang II der Richtlinie.

Die Ergebnisse der Prüfung sind in dem vertraulichen Prüfbericht **11NK11659** festgehalten.

[9] Die grundlegenden Sicherheits- und Gesundheitsanforderungen werden erfüllt durch Übereinstimmung mit


**EN 60079-0:2006
EN 60079-25:2004**

**EN 60079-11:2007
EN 60079-26:2007**

[10] Falls das Zeichen „X“ hinter der Bescheinigungsnummer steht, wird auf besondere Bedingungen für die sichere Anwendung des Gerätes in der Anlage zu dieser Bescheinigung hingewiesen.

[11] Die EG-Baumusterbescheinigung bezieht sich nur auf Konzeption und Prüfung des festgelegten Gerätes gemäß Richtlinie 94/9/EG. Weitere Anforderungen dieser Richtlinie gelten für die Herstellung und das Inverkehrbringen dieses Gerätes. Diese Anforderungen werden nicht durch diese Bescheinigung abgedeckt.

[12] Die Kennzeichnung dieses Gerätes muss die folgenden Angaben enthalten:

 **II (1) G [Ex ia] IIA**

 **II 1G Ex ia IIA T4**

Zulassungsbeauftragter
Jan-Erik Storgaard

Austellungsdatum: 05.03.2006

Neuaustellung: 08.12.2011

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www.ul-europe.com

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Anlage (zur Übersetzung)
EG-Baumusterprüfbescheinigung Nr.
DEMKO 06 ATEX 137480X
Bericht: 11NK11659

[15] Beschreibung des Gerätes

Das Leckerkennungssystem besteht aus einer TLS-450/8600 TLS-350, TLS-300, TLS-50, TLS-2, TLS-IB oder 8601 Konsole mit einer TLS-RF Konsole, Sonden, Sensoren oder einfachen Geräte. Das TLS-RF System besteht aus einer TLS-Batterie, TLS-Transmitter und einer Sonde. Die Systeme sind zur Lecküberwachung und Bestandskontrolle von Lagertanks oder Rohrleitungen für brennbare Flüssigkeiten vorgesehen. Die einfachen Geräte, welche in Verbindung mit diesem System verwendet werden, werden in diesem Zertifikat nicht aufgeführt. Jedes verbundene Gerät und eigensichere Gerät, welches für die Verwendung innerhalb dieses eigensicheren Systems bestimmt ist, wird in dessen zugehörigen EG-Baumusterprüfbescheinigung beschrieben.

In der Bescheinigung eingeschlossene Ausführungen:

Das TLS-450 Leckerkennungssystem besteht aus:

Tanküberwachungskonsole Modell TLS-450/8600 oder TLS-450R, Serie 8600

[Ex ia] IIA

Spannungsversorgung: 120/240V, 50/60 Hz

EG-Baumusterprüfbescheinigung Nr. DEMKO 07 ATEX 16184X

Tanküberwachungskonsole Modell TLS-RF, Serie 332242

[Ex ia] IIA

Spannungsversorgung: 120/240V, 50/60 Hz

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137478X

Mag Plus Probe, Serie 8462 oder 8463 oder 8473 oder 8563 oder Mag Sump Sensor, Serie 8570

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 0508841X

DPLLD Line Leak, Serie 8590

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 07 ATEX 141031X

Solid State Sensor, Serie 794360-343 oder 794360-344

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137479X

Vacuum Sensor, Modell 332175-XXX

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 07 ATEX 29144X

Das TLS-350 Leckerkennungssystem besteht aus:

Tanküberwachungskonsole Modell TLS-350, Serie 8470, oder TLS-350R, Serie 8482

[Ex ia] IIA

Spannungsversorgung: 120/240V, 50/60 Hz

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137481X

Tanküberwachungskonsole Modell TLS-RF, Serie 332242

[Ex ia] IIA

Spannungsversorgung: 120/240V, 50/60 Hz

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137478X

Mag Plus Probe, Serie 8462 oder 8463 oder 8473 oder 8563 oder Mag Sump Sensor, Serie 8570

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 0508841X

PLLD Line Leak, Serie 8484

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137486X

Solid State Sensor, Serie 794360-343 oder 794360-344

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137479X

Vacuum Sensor, Modell 332175-XXX

[Ex ia] IIA T4

EG-Baumusterprüfbescheinigung Nr. DEMKO 07 ATEX 29144X

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Das TLS-300 Leckerkennungssystem besteht aus:

Tanküberwachungskonsole Modell TLS-300, Serie 8485
[Ex ia] IIA
Spannungsversorgung: 120/240V, 50/60 Hz
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137484X

Tanküberwachungskonsole Modell TLS-RF, Serie 332242
[Ex ia] IIA
Spannungsversorgung: 120/240V, 50/60 Hz
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137478X

Mag Plus Probe, Serie 8462 oder 8463 oder 8473 oder 8563 oder Mag Sump Sensor, Serie 8570
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 0508841X

Solid State Sensor, Serie 794360-343 oder 794360-344
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137479X

Das TLS-50 Leckerkennungssystem besteht aus:

Tanküberwachungskonsole Modell TLS-50, Serie 8469, oder TLS2, Serie 8460, oder TLS-IB, Serie 8466
[Ex ia] IIA
Spannungsversorgung: 120/240V, 50/60 Hz
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137485X

Tanküberwachungskonsole Modell TLS-RF, Serie 332242
[Ex ia] IIA
Spannungsversorgung: 120/240V, 50/60 Hz
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137478X

Mag Plus Probe, Serie 8462 oder 8463 oder 8473 oder 8563 oder Mag Sump Sensor, Serie 8570
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 0508841X

Das TLS-RF System besteht aus:

TLS Transmitter, Serie 332235-XXX oder Batterie, Serie 332425-XXX
[Ex ia] IIA
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137478X

Mag Plus Probe, Serie 8462 oder 8463 oder 8473 oder 8563 oder Mag Sump Sensor, Serie 8570
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 0508841X

Das 8601 Leckerkennungssystem besteht aus:

Tanküberwachungskonsole Serie 8601
[Ex ia] IIA
Spannungsversorgung: 120/240V, 50/60 Hz
EG-Baumusterprüfbescheinigung Nr. DEMKO 011ATEX 11659X

Mag Plus Probe, Serie 8462 oder 8463 oder 8473 oder 8563 oder Mag Sump Sensor, Serie 8570
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 0508841X

DPLLD Line Leak, Serie 8590
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 07 ATEX 141031X

Solid State Sensor, Serie 794360-343 oder 794360-344
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 06 ATEX 137479X

Vacuum Sensor, Modell 332175-XXX
[Ex ia] IIA T4
EG-Baumusterprüfbescheinigung Nr. DEMKO 07 ATEX 29144X

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Anlage (zur Übersetzung)
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Temperaturbereich

Der zulässige Umgebungstemperaturbereich für alle TLS Konsolen ist $0^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$

Der zulässige Umgebungstemperaturbereich für alle eigensicheren Geräte: Mag Plus Probes, Mag Sump Sensor, PLLD Line Leak Sensors, TLS-Transmitter, TLS-Batterie und Solid State Sensores ist $-40^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$

Installationsanweisungen

Die verbundenen Geräte und eigensicheren Geräte müssen in Übereinstimmung mit den zugehörigen Systembeschreibungen installiert werden. Jedes System steht im Zusammenhang mit den folgenden Zeichnungen:

TLS-450:	Zeichnung Nr. 331940-006
TLS-350:	Zeichnung Nr. 331940-001
TLS-300:	Zeichnung Nr. 331940-002
TLS-50:	Zeichnung Nr. 331940-003
TLS-RF:	Zeichnung Nr. 331940-005

Montageanweisungen

Keine

Wiederkehrende Überprüfungen

Keine.

[16]

Berichtsnummer

Projektbericht Nr.: 11NK11659 (Test im explosionsgefährdeten Bereich)

Dokumente:

Beschreibung	Zeichnungs Nr.	Änderungsstand	Datum
Descriptive System Document TLS-450 Series	331940-006	A	16.08.2007
Descriptive System Document TLS-350 Series	331940-001	G	28.04.2010
Descriptive System Document TLS-300 Series	331940-002	B	21.02.2006
Descriptive System Document TLS-50, TLS2 and TLS-IB Series	331940-003	B	21.02.2006
Descriptive System Document TLS-RF Series	331940-005	A	21.06.2006
Descriptive System Document 8601 Series	331940-017	A	15.07.2011

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Besondere Bedingungen für die sichere Handhabung:

- Diese Geräte müssen als Teil des eigensicheren Systems, wie in den in diesem Dokument aufgeführten Systembeschreibungen definiert, installiert werden. Zusätzliche Bedingungen für die sichere Handhabung können in den Bescheinigungen der einzelnen Komponenten und in den Installationsanleitungen spezifiziert sein.
- Die Systembeschreibung beinhaltet Referenzen zu einfachen Geräten. Einfache Geräte, in Verbindung mit diesen Systemen, dürfen keine Induktivitäten oder Kapazitäten enthalten und müssen außerdem allen in den Systembeschreibungen aufgeführten Anforderungen entsprechen.
- Um zu ermitteln ob der Installationsort gegenüber Blitzschlag oder andere elektrische Spannungsstöße gefährdet ist, ist eine Risikoanalyse durchzuführen. Wenn nötig, müssen Schutzmaßnahmen gegen Blitzschlag oder elektrische Spannungsstöße in Übereinstimmung mit EN 60079-25: 2005 durchgeführt werden.
- Die nachfolgende Bestimmung für die sichere Handhabung gilt nur für den Mag Sump Sensor, TLS-RF Batterie und TLS-RF Transmitter: Vor der Installation bzw. oder Transport in den explosionsgefährdeten Bereich muss das Gerät innerhalb eines sicheren Bereiches geerdet werden um jegliche statische Aufladung abzuleiten. Danach das Gerät sofort zum Installationsort transportieren, das Gerät vor der Installation nicht reiben oder reinigen. Eine Reinigung ist unter normalen Installationsbedingungen nicht notwendig, reiben oder reinigen Sie das Gerät nicht nach der Installation. Ist das Gerät nach der Installation nicht mit einem definierten Erdungspunkt verbunden, so stellen Sie sicher, dass eine separate Erdverbindung hergestellt wird um statische Aufladungen zu vermeiden. Während der Installation bzw. Deinstallation des Gerätes ist die Verwendung von antistatischem Schuhwerk bzw. antistatischer Kleidung erforderlich.
- Die maximale Kabellänge zwischen der TLS-RF Batterie und dem TLS-RF Transmitter muss kürzer als 7,6m sein.
- Der zulässige Umgebungstemperaturbereich für die TLS-450/8600, -350, -300, -50, -IB, -2, -RF und 8601 Konsolen beträgt $0^{\circ}\text{C} \leq T_a \leq +40^{\circ}\text{C}$
- Um einen sicheren Betrieb zu gewährleisten müssen bei den TLS-450, -350, -300, -50, -IB, -2, -RF und 8601 alle Abdeckungen sowohl am eigensicheren Bereich als auch am unspezifizierten Verdrahtungsbereich angebracht sein.
- Um einen sicheren Betrieb zu gewährleisten müssen beim TLS-450/8600 und TLS-350 müssen alle Module sowohl im eigensicheren Bereich als auch im unspezifizierten Verdrahtungsbereich einbaut sein.
- Das Gerät ist nicht für die Installation an Trennwänden beurteilt.
- Die Mag Probe und Mag Sump Sensor Gehäuse enthalten Aluminium. Diesem muss im Zusammenhang mit den Endzündungsrisiken durch Stoß oder Reibung Sorge getragen werden.

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Anlage (zur Übersetzung)
EG-Baumusterprüfbescheinigung Nr.
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Bericht: 11NK11659

[18] Grundlegende Gesundheits- und Sicherheitsanforderungen
Bezüglich ESR bestätigt diese Anlage lediglich die Übereinstimmung mit den Ex Richtlinien. Die Konformitätserklärung des Herstellers erklärt die Übereinstimmung mit anderen Richtlinien im Zusammenhang.

[19] Zusätzliche Informationen
Für die nach EN60079-26:2004 zertifizierten Systembauteile wurde eine Beurteilung basierend auf der Liste der signifikanten Änderungen der Ausgabe EN60079-26:2007 durchgeführt. Darauf basierend wurden die Systembauteile auf die Ausgabe EN60079-26:2007 aktualisiert.

Der Hersteller hat die benannte Stelle, der die technischen Unterlagen zur EG-Baumusterprüfbescheinigung vorliegen, über alle Änderungen wie im ANHANG III der Richtlinie des Rates der Europäischen Gemeinschaften vom 23. März 1994 94/9/EG beschrieben zu unterrichten.

DESCRIPTIVE SYSTEM DOCUMENT FOR CERTIFICATE NUMBER:
DEMKO 06 ATEX 137480X

AMBIENT TEMPERATURE RANGE
0°C ≤ Ta ≤ 40°C

II (1) G [Ex ia] IIA

TLS-450 CONSOLE

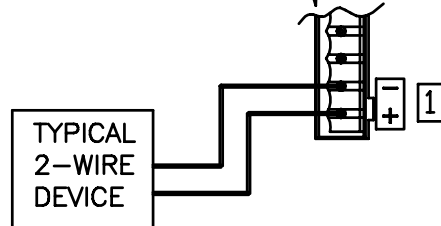
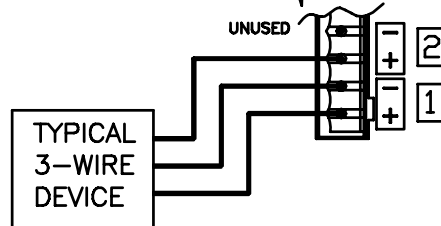
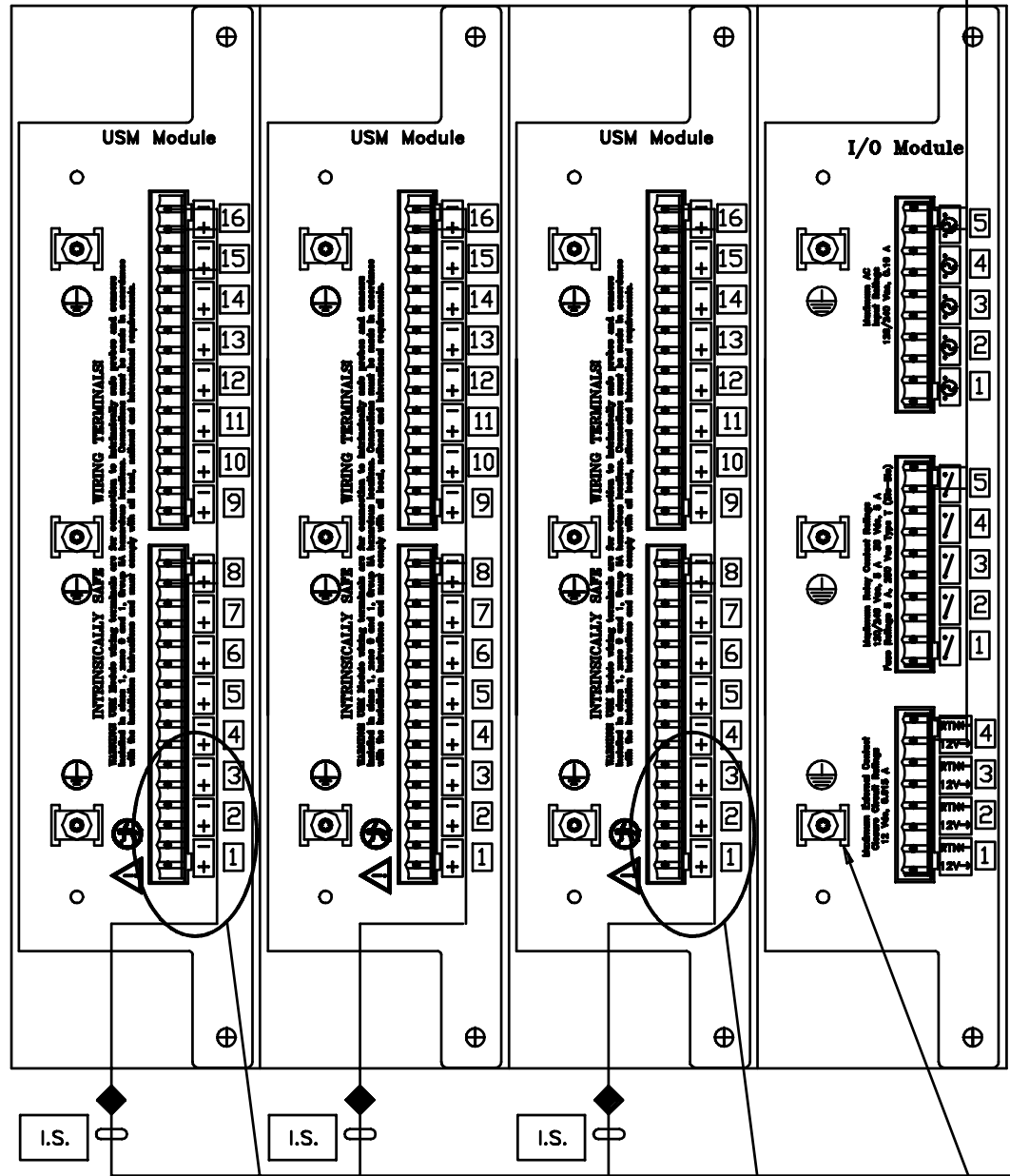
CERTIFICATE NO.:
DEMKO 07 ATEX 16184X

NON-HAZARDOUS AREA

ASSOCIATED APPARATUS

TLS RF CONSOLE
CERTIFICATE NOS.:
DEMKO 06 ATEX 137478X

TLS-450 CONSOLE



TERMINATION POINTS FOR SHIELDED CABLE

UNSPECIFIED EQUIPMENT

AC NEUTRAL
CHASSIS GROUND
AC LINE

UNSPECIFIED RECEIVER

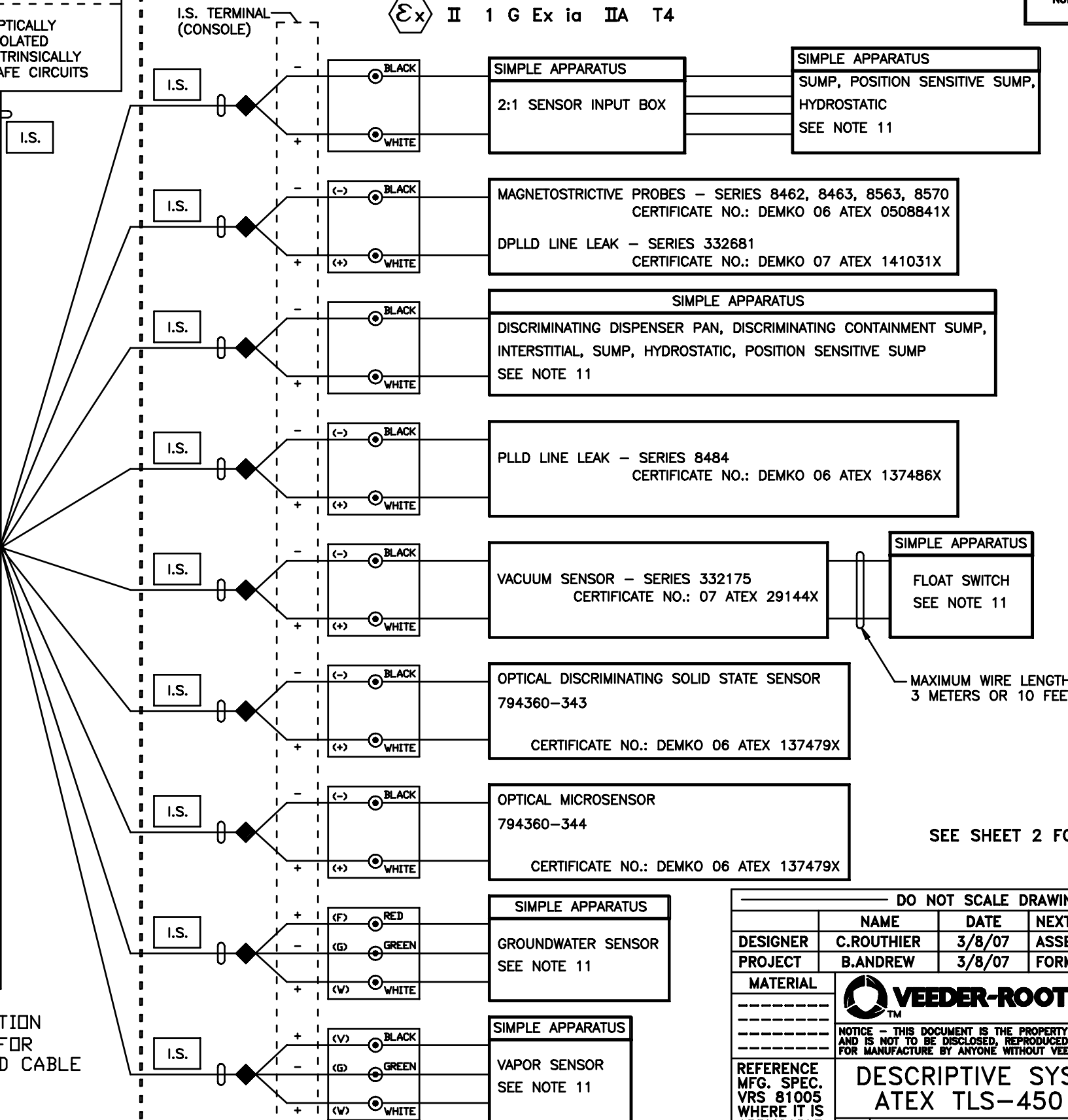
TLS RF CONSOLE
OPTICALLY ISOLATED
INTRINSICALLY SAFE CIRCUITS

HAZARDOUS AREA

INTRINSICALLY SAFE (I.S.) APPARATUS

AMBIENT TEMPERATURE RANGE
-40°C ≤ Ta ≤ 60°C

II 1 G Ex ia IIA T4



REV	DESCRIPTION	BY	DATE	ECO
A	INITIAL RELEASE	CAR	8/16/07	T374-064

Certified Product
No changes permitted
without reference to the
"Notified Body (NB)"

SIMPLE APPARATUS
2:1 SENSOR INPUT BOX
SUMP, POSITION SENSITIVE SUMP,
HYDROSTATIC
SEE NOTE 11

MAGNETOSTRICTIVE PROBES - SERIES 8462, 8463, 8563, 8570
CERTIFICATE NO.: DEMKO 06 ATEX 0508841X
DPLLD LINE LEAK - SERIES 332681
CERTIFICATE NO.: DEMKO 07 ATEX 141031X

SIMPLE APPARATUS
DISCRIMINATING DISPENSER PAN, DISCRIMINATING CONTAINMENT SUMP,
INTERSTITIAL, SUMP, HYDROSTATIC, POSITION SENSITIVE SUMP
SEE NOTE 11

PLLD LINE LEAK - SERIES 8484
CERTIFICATE NO.: DEMKO 06 ATEX 137486X

SIMPLE APPARATUS
VACUUM SENSOR - SERIES 332175
CERTIFICATE NO.: 07 ATEX 29144X
FLOAT SWITCH
SEE NOTE 11

OPTICAL DISCRIMINATING SOLID STATE SENSOR
794360-343
CERTIFICATE NO.: DEMKO 06 ATEX 137479X

OPTICAL MICROSENSOR
794360-344
CERTIFICATE NO.: DEMKO 06 ATEX 137479X

SIMPLE APPARATUS
GROUNDWATER SENSOR
SEE NOTE 11

SIMPLE APPARATUS
VAPOR SENSOR
SEE NOTE 11

MAXIMUM WIRE LENGTHS:
3 METERS OR 10 FEET.


SEE SHEET 2 FOR NOTES

DO NOT SCALE DRAWING				
DESIGNER	NAME	DATE	NEXT GRP.	
C.ROUTHIER	3/8/07	ASSEMBLY		
PROJECT	B.ANDREW	3/8/07	FORM NO.	
MATERIAL	VEEDER-ROOT		SIMSBURY, CONNECTICUT 06070 U.S.A.	
NOTICE - THIS DOCUMENT IS THE PROPERTY OF THE VEEDER-ROOT COMPANY AND IS NOT TO BE DISCLOSED, REPRODUCED IN WHOLE OR IN PART, OR USED FOR MANUFACTURE BY ANYONE WITHOUT VEEDER-ROOT'S WRITTEN CONSENT.				
REFERENCE MFG. SPEC. VRS 81005 WHERE IT IS APPLICABLE	DESCRIPTIVE SYS DOCUMENT ATEX TLS-450 CONSOLES			
UNSPECIFIED TOLERANCES +/- N/A	SIZE D	DRAWING NUMBER 331940-006	REV. A	STATUS REL
	SCALE NONE	SHEET 1 OF 2		

NOTES:

1. THE TOTAL ALLOWABLE CABLE LENGTH USED TO CONNECT UP TO 16 I.S. DEVICES TO EACH USM MODULE IS 7,315 METERS OR 24,000 FEET.
2. EACH CABLE (OR WIRING) USED TO CONNECT I.S. DEVICES TO THE CONSOLE MUST NOT EXCEED A CAPACITANCE OF 328 pf/METER OR 100 pf/FOOT.
3. THE TOTAL CABLE CAPACITANCE, COMBINING ALL OF THE CABLE USED TO CONNECT THE INTRINSICALLY SAFE DEVICES TO EACH USM MODULE, MUST NOT EXCEED 5,0μF.
4. EACH CABLE MUST NOT EXCEED AN INDUCTANCE OF 0,656 μH/METER OR 0,2 μH/FOOT.
5. THE L/R RATIO OF THE CABLE MUST NOT EXCEED 200 μH/OHM.
6. FOR EACH TLS-450 CONSOLE INSTALLED, THE MAXIMUM NUMBER OF I.S. DEVICES CONNECTED TO EACH ASSOCIATED APPARATUS IS 64. A MAXIMUM OF TWO TLS RF CONSOLES CAN BE CONNECTED TO A UNIVERSAL SENSOR MODULE (USM) MODULE, WHERE EACH CONNECTED TLS RF CHANNEL EQUALS ONE I.S. DEVICE.
7. NON-HAZARDOUS ASSOCIATED APPARATUS IS AS SHOWN AND MUST NOT BE SUPPLIED FROM OR CONTAIN, UNDER NORMAL OR ABNORMAL CONDITIONS, A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V RMS OR 250V dc, Um = 250V.
8. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH A 4mm² (10 AWG) (OR LARGER) CONDUCTOR. GROUNDING MUST COMPLY WITH EN 60079-14, CLAUSE 6.3.
9. THIS SYMBOL, ⊙ , DENOTES A FIELD WIRING CONNECTION INSIDE A WEATHERPROOF JUNCTION BOX.
10. A RISK ANALYSIS MUST BE PERFORMED TO DETERMINE IF THE INSTALLATION LOCATION IS SUSCEPTIBLE TO LIGHTNING OR OTHER SURGES. IF NECESSARY, ADD PROTECTION AGAINST LIGHTNING AND OTHER ELECTRICAL SURGES IN ACCORDANCE WITH EN 60079-25, SECTION 10.
11. IT IS THE RESPONSIBILITY OF THE END USER TO DETERMINE COMPLIANCE OF SIMPLE APPARATUS. SIMPLE APPARATUS USED WITH THIS SYSTEM MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A) CONSTRUCTED OF PASSIVE COMPONENTS ONLY, FOR EXAMPLE, SWITCHES, JUNCTION BOXES AND RESISTORS.
 - B) CONSTRUCTED WITHOUT ANY SOURCES OF STORED ENERGY SUCH AS BATTERIES, CAPACITORS AND INDUCTORS.
 - C) CONSTRUCTED WITHOUT SOURCES OF GENERATED ENERGY THAT PRODUCE MORE THAN 1.5V, AND 25mW OR SOURCES THAT CONTAIN A MEANS OF INCREASING THE VOLTAGE.
 - D) IF CONSTRUCTED WITH A METALLIC HOUSING THE SIMPLE APPARATUS SHALL BE CAPABLE OF WITHSTANDING THE TEST VOLTAGE TO EARTH IN ACCORDANCE WITH EN 60079-11, CLAUSE 6.3.12 AND ITS TERMINALS MUST CONFORM TO EN 60079-11, CLAUSE 6.2.
 - E) NONMETALLIC ENCLOSURES AND ENCLOSURES OF LIGHT METALS MUST COMPLY WITH EN 60079-0 SECTIONS 7 & 8 AND EN 60079-26 CLAUSE 4.3.3.
 - F) BASED ON THE AVAILABLE POWER WITHIN THE SYSTEM, SIMPLE APPARATUS THAT HAVE ELECTRICAL COMPONENTS THAT EXCEED 20mm² IN TOTAL SURFACE AREA, MAY BE ASSESSED AS HAVING A T4 TEMPERATURE CODE AT THE SPECIFIED AMBIENT TEMPERATURE RANGE OF -40°C ≤ Ta ≤ +60°C. OTHER TYPES OF SIMPLE APPARATUS MUST BE ASSESSED IN ACCORDANCE WITH EN 60079-11, SECTION 5.4.
12. SPECIAL CONDITIONS FOR SAFE USE, AS DEFINED IN THE CERTIFICATE OF CONFORMITY AND INSTALLATION INSTRUCTIONS MUST BE TAKEN INTO ACCOUNT.
13. ANY COMBINATION OF UP TO FOUR MODULES MAY BE INSTALLED IN ANY SINGLE CONSOLE.
MODULE TYPES:
 - A) I/O MODULES PROVIDE WIRING TERMINALS FOR THE CONNECTION OF EQUIPMENT IN NON-HAZARDOUS LOCATIONS.
 - B) SENSOR (USM) MODULES PROVIDE WIRING TERMINALS FOR THE CONNECTION OF INTRINSICALLY SAFE EQUIPMENT.
14. THIS SYSTEM DESCRIPTIVE DOCUMENT DESCRIBES THE INTRINSICALLY SAFE EQUIPMENT AND ASSOCIATED APPARATUS THAT TOGETHER FORM AN INTRINSICALLY SAFE SYSTEM.
15. TLS-450 CONSOLES ARE IDENTIFIED BY FORM NUMBERS 8600. A TLS-450 CONSOLE CANNOT BE CONNECTED IN PARALLEL WITH ANOTHER TLS-450 OR ANY OTHER ASSOCIATED APPARATUS. TLS-450 CONSOLES MUST BE INSTALLED IN INDOOR NON-HAZARDOUS AREAS.

LEGEND	
⊙	- DENOTES A FIELD WIRING CONNECTION INSIDE A WEATHERPROOF JUNCTION BOX
◆	- DENOTES A CONDUIT SEAL-OFF
I.S.	- DENOTES INTRINSICALLY SAFE WIRING

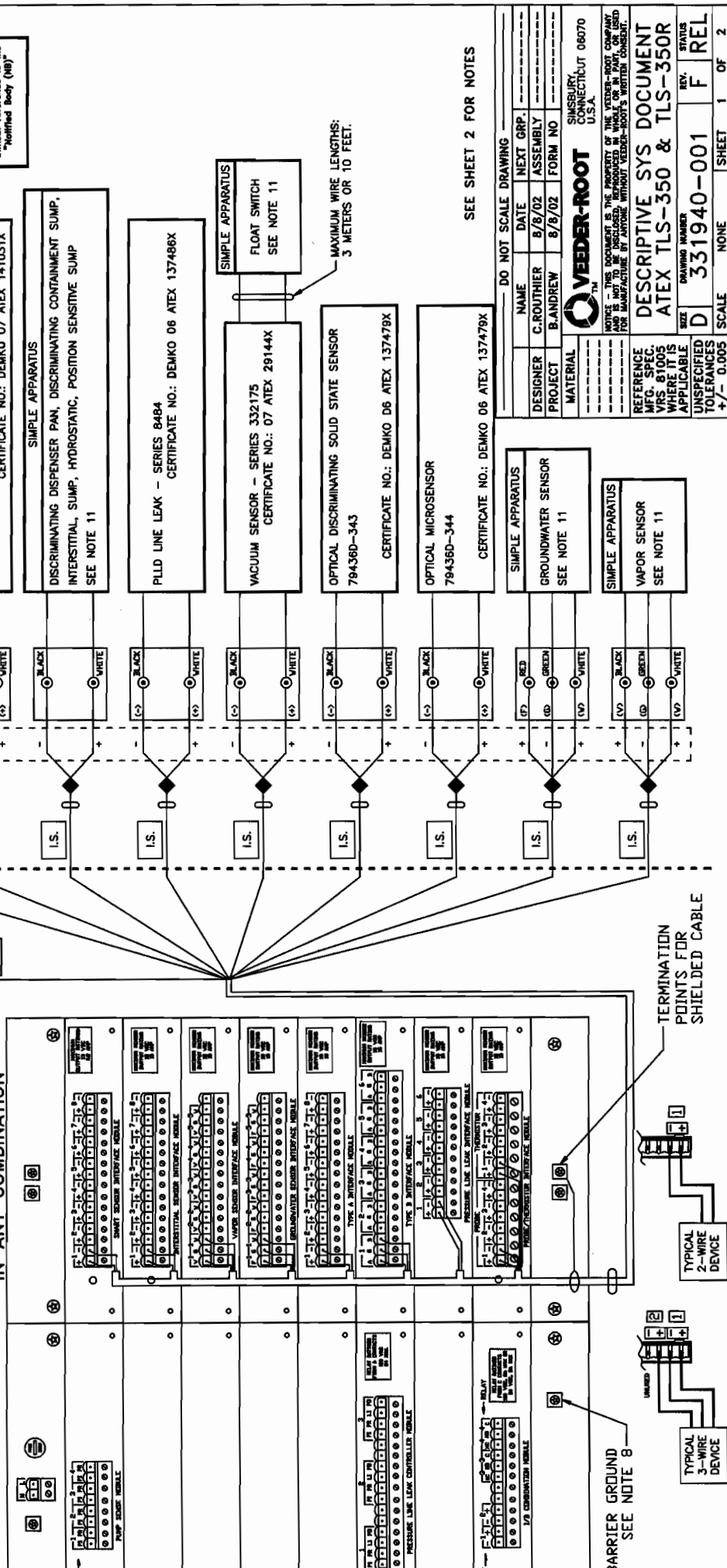
		SIMSBURY, CONNECTICUT 06070 U.S.A.	
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DESCRIPTIVE SYS DOCUMENT ATEX TLS-450 CONSOLES			
SIZE	DRAWING NUMBER	REV.	STATUS
D	331940-006	A	REL
SCALE	NONE	SHEET	2 OF 2

DESCRIPTIVE SYSTEM DOCUMENT FOR CERTIFICATE NUMBER DEMKO 06 ATEX 137480X
HAZARDOUS AREA
 INTRINSICALLY SAFE (I.S.) APPARATUS
 AMBIENT TEMPERATURE RANGE
 $-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$
 II 1 G Ex Ia IIA T4

DESCRIPTIVE SYSTEM DOCUMENT FOR CERTIFICATE NUMBER DEMKO 06 ATEX 137480X
NON-HAZARDOUS AREA
 AMBIENT TEMPERATURE RANGE
 $0^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$
 II (1) G [EEx ia] IIA

POWER MODULES
 MAXIMUM OF 8
 SEE NOTE 7

ASSOCIATED APPARATUS
 INTRINSICALLY SAFE
 MODULES
 MAXIMUM OF 8
 IN ANY COMBINATION



Certified Product
 No changes permitted
 without reference to the
 "Harmed Body (HB)"

SEE SHEET 2 FOR NOTES

REV	DESCRIPTION	BY	DATE	ECO
E	UPDATED TO REFLECT TLS RF ADDED SHEET 2 FOR NOTES	CAR	02/21/06	P043-003
F	UPDATED TO REFLECT VAC SENSOR	CT	08/23/07	Z083-004

NAME	DATE	SCALE	SHEET	OF
DESIGNER C. ROUTHIER	8/8/02	NONE	1	2
PROJECT B. ANDREW	8/8/02			
MATERIAL				

DO NOT SCALE DRAWING	NAME	DATE	SCALE	SHEET	OF
	C. ROUTHIER	8/8/02	NONE	1	2
	B. ANDREW	8/8/02			

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C. ROUTHIER	8/8/02	NONE	1	2
B. ANDREW	8/8/02			

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DESIGNER	DATE	SCALE	SHEET	OF
C. ROUTHIER	8/8/02	NONE	1	2
B. ANDREW	8/8/02			

DESIGNER	DATE	SCALE	SHEET	OF
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NOTES:

1. A MAXIMUM CABLE LENGTH OF 305 METERS OR 1,000 FEET IS ALLOWED TO CONNECT ANY SINGLE I.S. DEVICE TO THE ASSOCIATED APPARATUS. THE TOTAL ALLOWABLE CABLE LENGTH USED TO CONNECT ALL OF THE I.S. DEVICES TO THE ASSOCIATED APPARATUS IS 15,240 METERS OR 50,000 FEET.
2. EACH CABLE (OR WIRING) USED TO CONNECT I.S. DEVICES TO THE CONSOLE MUST NOT EXCEED A CAPACITANCE OF 328 pF/METER OR 100 pF/FOOT.
3. THE TOTAL CABLE CAPACITANCE, COMBINING ALL OF THE CABLE USED TO CONNECT THE INTRINSICALLY SAFE DEVICES TO THE ASSOCIATED APPARATUS, MUST NOT EXCEED 5.0 μ F.
4. EACH CABLE MUST NOT EXCEED AN INDUCTANCE OF 0.656 μ H/METER OR 0.2 μ H/FOOT.
5. THE L/R RATIO OF THE CABLE MUST NOT EXCEED 200 μ H/OHM.
6. FOR EACH TLS-350 CONSOLE INSTALLED THE MAXIMUM NUMBER OF I.S. DEVICES CONNECTED TO THE ASSOCIATED APPARATUS IS 64. A MAXIMUM OF TWO TLS RF CONSOLES CAN BE CONNECTED TO THE TLS-350 CONSOLE, WHERE EACH CONNECTED TLS RF CHANNEL EQUALS ONE I.S. DEVICE.
7. NON-HAZARDOUS ASSOCIATED APPARATUS IS AS SHOWN AND MUST NOT BE SUPPLIED FROM OR CONTAIN, UNDER NORMAL OR ABNORMAL CONDITIONS, A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V RMS OR 250V dc, $U_m = 250V$.
8. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH A 4mm² (10 AWG) (OR LARGER) CONDUCTOR. GROUNDING MUST COMPLY WITH EN 60079-14, CLAUSE 6.3.
9. THIS SYMBOL, \odot , DENOTES A FIELD WIRING CONNECTION INSIDE A WEATHERPROOF JUNCTION BOX.
10. A RISK ANALYSIS MUST BE PERFORMED TO DETERMINE IF THE INSTALLATION LOCATION IS SUSCEPTIBLE TO LIGHTNING OR OTHER SURGES. IF NECESSARY, ADD PROTECTION AGAINST LIGHTNING AND OTHER ELECTRICAL SURGES IN ACCORDANCE WITH EN 60079-25, SECTION 10.
11. IT IS THE RESPONSIBILITY OF THE END USER TO DETERMINE COMPLIANCE OF SIMPLE APPARATUS. SIMPLE APPARATUS USED WITH THIS SYSTEM MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A) CONSTRUCTED OF PASSIVE COMPONENTS ONLY, FOR EXAMPLE, SWITCHES, JUNCTION BOXES AND RESISTORS.
 - B) CONSTRUCTED WITHOUT ANY SOURCES OF STORED ENERGY SUCH AS BATTERIES, CAPACITORS AND INDUCTORS.
 - C) CONSTRUCTED WITHOUT SOURCES OF GENERATED ENERGY THAT PRODUCE MORE THAN 1.5V, AND 25mW OR SOURCES THAT CONTAIN A MEANS OF INCREASING THE VOLTAGE.
 - D) IF CONSTRUCTED WITH A METALLIC HOUSING THE SIMPLE APPARATUS SHALL BE CAPABLE OF WITHSTANDING THE TEST VOLTAGE TO EARTH IN ACCORDANCE WITH EN 50020, CLAUSE 6.4.12 AND ITS TERMINALS MUST CONFORM TO EN 50020, CLAUSE 6.3.1.
 - E) NONMETALLIC ENCLOSURES AND ENCLOSURES OF LIGHT METALS MUST COMPLY WITH EN 60079-0 SECTIONS 7 & 8 AND EN 60079-26 CLAUSE 4.3.3.
 - F) BASED ON THE AVAILABLE POWER WITHIN THE SYSTEM, SIMPLE APPARATUS THAT HAVE ELECTRICAL COMPONENTS THAT EXCEED 20mm² IN TOTAL SURFACE AREA, MAY BE ASSESSED AS HAVING A T4 TEMPERATURE CODE, AT THE SPECIFIED AMBIENT TEMPERATURE RANGE OF -40C \leq T \leq +60C. OTHER TYPES OF SIMPLE APPARATUS MUST BE ASSESSED IN ACCORDANCE WITH EN 50020, SECTION 6.2.
12. SPECIAL CONDITIONS, SAFE USE, AS APPLICABLE AND AS DEFINED IN THE CERTIFICATE OF CONFORMITY AND INSTALLATION INSTRUCTIONS MUST BE TAKEN INTO ACCOUNT.



SIMSBUURY
CONNECTICUT 06070
U.S.A.

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DESCRIPTIVE SYS DOCUMENT
ATEX TLS-350 & TLS-350R

SIZE	D	DRAWING NUMBER	331940-001	REV.	F	STATUS	REL
SCALE	NONE			SHEET	2	OF	2

DESCRIPTIVE SYSTEM DOCUMENT FOR CERTIFICATE NUMBER DEMKO 06 ATEX 137480X

TLS-300 CONSOLE

NON-HAZARDOUS AREA

AMBIENT TEMPERATURE RANGE
 $0^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$

Σx II (1) G [EEx ia] IIA

TLS-300 CONSOLE
 CERTIFICATE NO.:
 DEMKO 06 ATEX 137484X

INTRINSICALLY SAFE
 MODULES

HAZARDOUS AREA

INTRINSICALLY SAFE (I.S.) APPARATUS

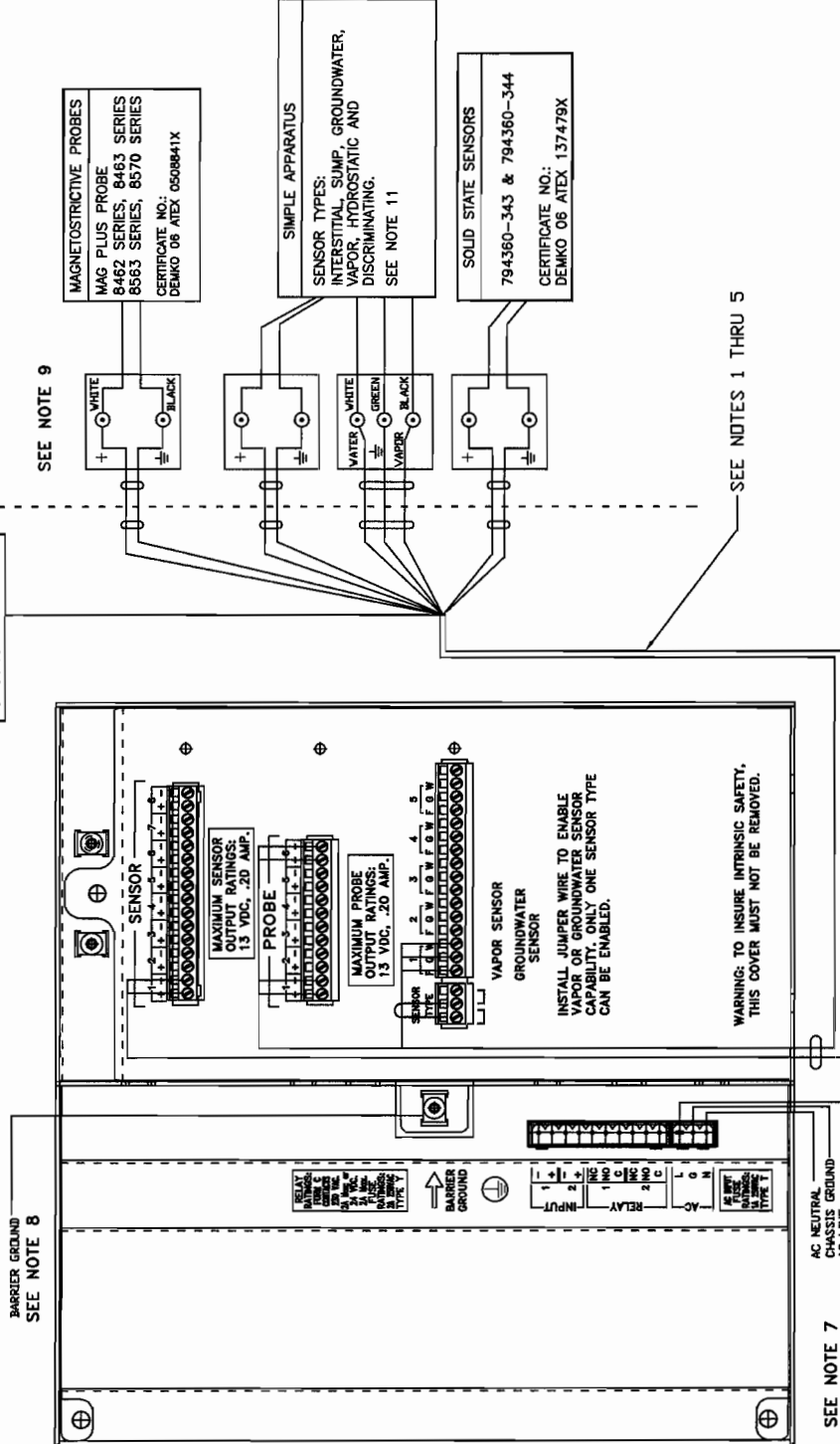
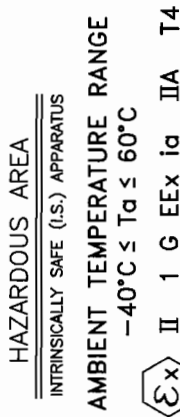
AMBIENT TEMPERATURE RANGE
 $-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

Σx II 1 G EEx ia IIA T4

WHERE APPLICABLE, INTRINSICALLY SAFE
 EQUIPMENT MUST BE GROUNDED IN
 ACCORDANCE WITH LOCAL CODES.

Certified Product
 No changes permitted
 without reference to the
 "Notified Body (NB)"

REV	DESCRIPTION	BY	DATE	ECO
A	INITIAL RELEASE	CAR	4/23/03	T357-006
B	UPDATED TO REFLECT TLS RF	CAR	02/21/06	P043-003
ADDED SHEET 2 FOR NOTES				



SEE NOTE 9

SEE NOTES 1 THRU 5

SEE NOTE 8

SEE NOTE 7

SEE SHEET 2 FOR NOTES

DO NOT SCALE DRAWING			
NAME	DATE	NEXT GRP.	
DESIGNER C. ROUTHIER	4/23/03	ASSEMBLY	
PROJECT B. ANDREW	4/23/03	FORM NO.	
MATERIAL			
VEEEDER-ROOT SIMSBURY, CONNECTICUT 06070 U.S.A.			
NOTICE - THIS DOCUMENT IS THE PROPERTY OF THE VEEEDER-ROOT COMPANY AND IS NOT TO BE DISCLOSED, REPRODUCED IN WHOLE OR IN PART, OR USED FOR MANUFACTURE BY ANYONE WITHOUT VEEEDER-ROOT'S WRITTEN CONSENT.			
REFERENCE MFG. SPEC. VRS 81005 WHICH IS APPLICABLE	DESCRIPTIVE SYS DOCUMENT ATEX TLS-300 CONSOLES		
UNSPECIFIED TOLERANCES +/-	SIZE D	DRAWING NUMBER 331940-002	REV. B
	SCALE NONE	SHEET 1	OF 2

WARNING: DISCONNECT ALL POWER BEFORE MAKING ANY CONNECTIONS TO PREVENT DEATH, SERIOUS INJURY, EXPLOSION, OR ELECTRICAL SHOCK. CONSOLE MUST NEVER BE OPERATED UNLESS THE FRONT COVER IS CLOSED OVER THE BARRIER TERMINALS IN THE INTRINSICALLY SAFE AREA.

WARNING: IN INSTALLATION AND USE OF THIS PRODUCT, COMPLY WITH ALL ELECTRICAL CODES. IN ADDITION, TURN OFF POWER AND TAKE OTHER NECESSARY PRECAUTIONS DURING INSTALLATION, SERVICE AND REPAIR TO PREVENT PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.

NOTES:

1. A MAXIMUM CABLE LENGTH OF 305 METERS OR 1,000 FEET IS ALLOWED TO CONNECT ANY SINGLE I.S. DEVICE TO THE ASSOCIATED APPARATUS. THE TOTAL ALLOWABLE CABLE LENGTH USED TO CONNECT ALL OF THE I.S. DEVICES TO THE ASSOCIATED APPARATUS IS 9,753 METERS OR 32,000 FEET.
2. EACH CABLE (OR WIRING) USED TO CONNECT I.S. DEVICES TO THE CONSOLE MUST NOT EXCEED A CAPACITANCE OF 328 pF/METER OR 100 pF/FOOT.
3. THE TOTAL CABLE CAPACITANCE, COMBINING ALL OF THE CABLE USED TO CONNECT THE INTRINSICALLY SAFE DEVICES TO THE ASSOCIATED APPARATUS, MUST NOT EXCEED 3,2 μ F.
4. EACH CABLE MUST NOT EXCEED AN INDUCTANCE OF 0.656 μ H/METER OR 0.2 μ H/FOOT.
5. THE L/R RATIO OF THE CABLE MUST NOT EXCEED 200 μ H/OHM.
6. FOR EACH TLS-300 CONSOLE INSTALLED THE MAXIMUM NUMBER OF I.S. DEVICES CONNECTED TO THE ASSOCIATED APPARATUS IS 32. A MAXIMUM OF TWO TLS RF CONSOLES CAN BE CONNECTED TO THE TLS-300 CONSOLE, WHERE EACH CONNECTED TLS RF CHANNEL EQUALS ONE I.S. DEVICE.
7. NON-HAZARDOUS ASSOCIATED APPARATUS IS AS SHOWN AND MUST NOT BE SUPPLIED FROM OR CONTAIN, UNDER NORMAL OR ABNORMAL CONDITIONS, A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V RMS OR 250V dc, $U_m = 250V$.
8. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH A 4mm² (10 AWG) (OR LARGER) CONDUCTOR. GROUNDING MUST COMPLY WITH EN 60079-14, CLAUSE 6.3.
9. THIS SYMBOL, \odot , DENOTES A FIELD WIRING CONNECTION INSIDE A WEATHERPROOF JUNCTION BOX.
10. A RISK ANALYSIS MUST BE PERFORMED TO DETERMINE IF THE INSTALLATION LOCATION IS SUSCEPTIBLE TO LIGHTNING OR OTHER SURGES. IF NECESSARY, ADD PROTECTION AGAINST LIGHTNING AND OTHER ELECTRICAL SURGES IN ACCORDANCE WITH EN 60079-25, SECTION 10.
11. IT IS THE RESPONSIBILITY OF THE END USER TO DETERMINE COMPLIANCE OF SIMPLE APPARATUS. SIMPLE APPARATUS USED WITH THIS SYSTEM MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A) CONSTRUCTED OF PASSIVE COMPONENTS ONLY, FOR EXAMPLE, SWITCHES, JUNCTION BOXES AND RESISTORS.
 - B) CONSTRUCTED WITHOUT ANY SOURCES OF STORED ENERGY SUCH AS BATTERIES, CAPACITORS AND INDUCTORS.
 - C) CONSTRUCTED WITHOUT SOURCES OF GENERATED ENERGY THAT PRODUCE MORE THAN 1.5V, AND 25mW OR SOURCES THAT CONTAIN A MEANS OF INCREASING THE VOLTAGE.
 - D) IF CONSTRUCTED WITH A METALLIC HOUSING THE SIMPLE APPARATUS SHALL BE CAPABLE OF WITHSTANDING THE TEST VOLTAGE TO EARTH IN ACCORDANCE WITH EN 50020, CLAUSE 6.4.12 AND ITS TERMINALS MUST CONFORM TO EN 50020, CLAUSE 6.3.1.
 - E) NONMETALLIC ENCLOSURES AND ENCLOSURES OF LIGHT METALS MUST COMPLY WITH EN 50014 SECTIONS 7 & 8 AND EN 50284 CLAUSE 4.4.
 - F) BASED ON THE AVAILABLE POWER WITHIN THE SYSTEM, SIMPLE APPARATUS THAT HAVE ELECTRICAL COMPONENTS THAT EXCEED 20mm² IN TOTAL SURFACE AREA, MAY BE ASSESSED AS HAVING A T4 TEMPERATURE CODE; AT THE SPECIFIED AMBIENT TEMPERATURE RANGE OF -40°C \leq Ta \leq +60°C. OTHER TYPES OF SIMPLE APPARATUS MUST BE ASSESSED IN ACCORDANCE WITH EN 50020, SECTION 6.2.
12. SPECIAL CONDITIONS, SAFE USE, AS APPLICABLE AND AS DEFINED IN THE CERTIFICATE OF CONFORMITY AND INSTALLATION INSTRUCTIONS MUST BE TAKEN INTO ACCOUNT.



SIMSBURY,
CONNECTICUT 06070
U.S.A.

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DESCRIPTIVE SYS DOCUMENT
ATEX TLS-300 CONSOLES

SIZE	D	DRAWING NUMBER	331940-002	REV.	B	STATUS	NFP
SCALE	NONE	SHEET	2	OF	2		

DESCRIPTIVE SYSTEM DOCUMENT FOR CERTIFICATE NUMBER DEMKO 06 ATEX 137480X

TLS-50/TLS2/TLS-IB CONSOLES

NON-HAZARDOUS AREA
ASSOCIATED APPARATUS

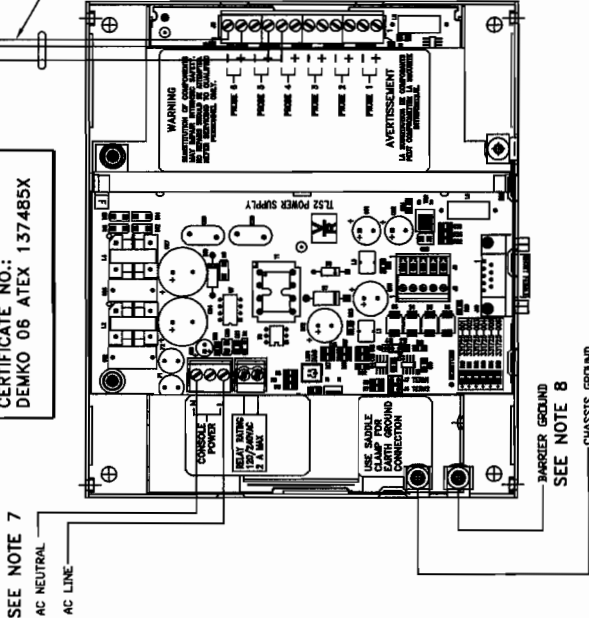
AMBIENT TEMPERATURE RANGE
 $0^{\circ}\text{C} \leq T_a \leq 40^{\circ}\text{C}$

II (1) G [EEx ia] IIA

TLS RF CONSOLE
CERTIFICATE NO.: 137478X
DEMKO 06 ATEX 137478X

TLS RF CONSOLE
OPTICALLY ISOLATED
INTRINSICALLY SAFE
CIRCUITS

TLS2 CONSOLE
TLS-50 CONSOLE
TLS-IB CONSOLE
CERTIFICATE NO.:
DEMKO 06 ATEX 137485X



HAZARDOUS AREA

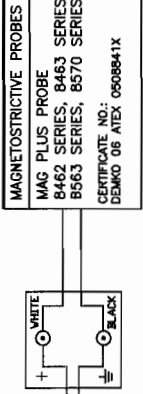
INTRINSICALLY SAFE (I.S.) APPARATUS

AMBIENT TEMPERATURE RANGE
 $-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

II 1 G EEx ia IIA T4

WHERE APPLICABLE, INTRINSICALLY SAFE
EQUIPMENT MUST BE GROUNDED IN
ACCORDANCE WITH LOCAL CODES.

SEE NOTE 9



SEE NOTES 1 THRU 5

Certified Product
No changes permitted
without approval from the
"Notified Body" (NB)

REV	DESCRIPTION	BY	DATE	ECO
A	INITIAL RELEASE		04/23/03	T357-006
B	UPDATED TO REFLECT TLS RF ADDED SHEET 2 FOR NOTES	CAR	02/21/06	P043-003

SEE SHEET 2 FOR NOTES

DO NOT SCALE DRAWING			
NAME	DATE	NEXT GRP.	
DESIGNER	C-ROUTHIER	4/23/03	ASSEMBLY
PROJECT	B. ANDREW	4/23/03	FORM NO
MATERIAL			
VEEDER-ROOT SIMSURY, CONNECTICUT 06070 U.S.A.			
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REFERENCE	DESCRIPTIVE SYS DOCUMENT		
MFG. SPEC.	ATEX TLS-50, TLS2 & TLS-IB		
WHERE IT IS	APPLICABLE		
UNSPECIFIED	DRAWING NUMBER	REV.	STATUS
TOLERANCES	331940-003	B	NFP
+/- 0.005	SCALE	NONE	SHEET 1 OF 2

WARNING: DISCONNECT ALL POWER BEFORE MAKING ANY CONNECTIONS TO PREVENT DEATH, SERIOUS INJURY, EXPLOSION, OR ELECTRICAL SHOCK. CONSOLE MUST NEVER BE OPERATED UNLESS THE FRONT COVER IS CLOSED OVER THE BARRIER TERMINALS IN THE INTRINSICALLY SAFE AREA.

WARNING: IN INSTALLATION AND USE OF THIS PRODUCT, COMPLY WITH ALL ELECTRICAL CODES. IN ADDITION, TURN OFF POWER AND TAKE OTHER NECESSARY PRECAUTIONS DURING INSTALLATION, SERVICE AND REPAIR TO PREVENT PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.

NOTES:

1. A MAXIMUM CABLE LENGTH OF 305 METERS OR 1,000 FEET IS ALLOWED TO CONNECT ANY SINGLE I.S. DEVICE TO THE ASSOCIATED APPARATUS. THE TOTAL ALLOWABLE CABLE LENGTH USED TO CONNECT ALL OF THE I.S. DEVICES TO THE ASSOCIATED APPARATUS IS 2,438 METERS OR 8,000 FEET.
2. EACH CABLE (OR WIRING) USED TO CONNECT I.S. DEVICES TO THE CONSOLE MUST NOT EXCEED A CAPACITANCE OF 328 pF/METER OR 100 pF/FOOT.
3. THE TOTAL CABLE CAPACITANCE, COMBINING ALL OF THE CABLE USED TO CONNECT THE INTRINSICALLY SAFE DEVICES TO THE ASSOCIATED APPARATUS, MUST NOT EXCEED 0.8 μ F.
4. EACH CABLE MUST NOT EXCEED AN INDUCTANCE OF 0.656 μ H/METER OR 0.2 μ H/FOOT.
5. THE L/R RATIO OF THE CABLE MUST NOT EXCEED 200 μ H/OHM.
6. FOR EACH TLS-50, TLS2, TLS-IB CONSOLE INSTALLED THE MAXIMUM NUMBER OF I.S. DEVICES CONNECTED TO THE ASSOCIATED APPARATUS IS 8. A MAXIMUM OF TWO TLS RF CONSOLES CAN BE CONNECTED TO THE CONSOLE, WHERE EACH CONNECTED TLS RF CHANNEL EQUALS ONE I.S. DEVICE.
7. NON-HAZARDOUS ASSOCIATED APPARATUS IS AS SHOWN AND MUST NOT BE SUPPLIED FROM OR CONTAIN, UNDER NORMAL OR ABNORMAL CONDITIONS, A SOURCE OF POTENTIAL WITH RESPECT TO EARTH IN EXCESS OF 250V RMS OR 250V dc, Um = 250V.
8. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH A 4mm² (10 AWG) (OR LARGER) CONDUCTOR. GROUNDING MUST COMPLY WITH EN 60079-14, CLAUSE 6.3.
9. THIS SYMBOL, \odot , DENOTES A FIELD WIRING CONNECTION INSIDE A WEATHERPROOF JUNCTION BOX.
10. A RISK ANALYSIS MUST BE PERFORMED TO DETERMINE IF THE INSTALLATION LOCATION IS SUSCEPTIBLE TO LIGHTNING OR OTHER SURGES. IF NECESSARY, ADD PROTECTION AGAINST LIGHTNING AND OTHER ELECTRICAL SURGES IN ACCORDANCE WITH EN 60079-25, SECTION 10.
11. IT IS THE RESPONSIBILITY OF THE END USER TO DETERMINE COMPLIANCE OF SIMPLE APPARATUS. SIMPLE APPARATUS USED WITH THIS SYSTEM MUST CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A) CONSTRUCTED OF PASSIVE COMPONENTS ONLY, FOR EXAMPLE, SWITCHES, JUNCTION BOXES AND RESISTORS.
 - B) CONSTRUCTED WITHOUT ANY SOURCES OF STORED ENERGY SUCH AS BATTERIES, CAPACITORS AND INDUCTORS.
 - C) CONSTRUCTED WITHOUT SOURCES OF GENERATED ENERGY THAT PRODUCE MORE THAN 1.5V, AND 25mW OR SOURCES THAT CONTAIN A MEANS OF INCREASING THE VOLTAGE.
 - D) IF CONSTRUCTED WITH A METALLIC HOUSING THE SIMPLE APPARATUS SHALL BE CAPABLE OF WITHSTANDING THE TEST VOLTAGE TO EARTH IN ACCORDANCE WITH EN 50020, CLAUSE 6.4.12 AND ITS TERMINALS MUST CONFORM TO EN 50020, CLAUSE 6.3.1.
 - E) NONMETALLIC ENCLOSURES AND ENCLOSURES OF LIGHT METALS MUST COMPLY WITH EN 50014 SECTIONS 7 & 8 AND EN 50284 CLAUSE 4.4.
 - F) BASED ON THE AVAILABLE POWER WITHIN THE SYSTEM, SIMPLE APPARATUS THAT HAVE ELECTRICAL COMPONENTS THAT EXCEED 20mm² IN TOTAL SURFACE AREA, MAY BE ASSESSED AS HAVING A T4 TEMPERATURE CODE, AT THE SPECIFIED AMBIENT TEMPERATURE RANGE OF -40C \leq Ta \leq +60C. OTHER TYPES OF SIMPLE APPARATUS MUST BE ASSESSED IN ACCORDANCE WITH EN 50020, SECTION 6.2.
12. SPECIAL CONDITIONS, SAFE USE, AS APPLICABLE AND AS DEFINED IN THE CERTIFICATE OF CONFORMITY AND INSTALLATION INSTRUCTIONS MUST BE TAKEN INTO ACCOUNT.



SIMSBURY,
CONNECTICUT 06070
U.S.A.

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DESCRIPTIVE SYS DOCUMENT
ATEX TLS-50, TLS2 & TLS-IB

SIZE	DRAWING NUMBER	REV.	STATUS
D	331940-003	B	NFP
SCALE	NONE	SHEET 2	OF 2

DESCRIPTIVE SYSTEM DOCUMENT FOR CERTIFICATE NUMBER DEMKO 06 ATEX 137480X

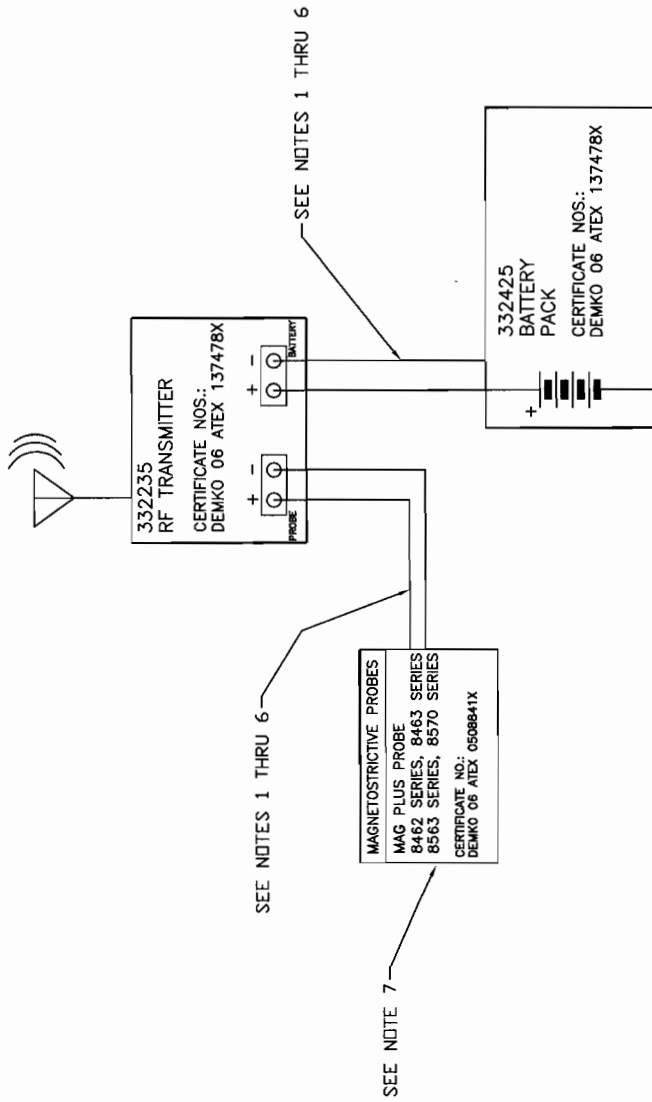
HAZARDOUS AREA

INTRINSICALLY SAFE (I.S.) APPARATUS

TLS RADIO GROUP

AMBIENT TEMPERATURE RANGE
 $-40^{\circ}\text{C} \leq T_a \leq 60^{\circ}\text{C}$

Ex II 1 G EEx ia IIA



WARNING: IN INSTALLATION AND USE OF THIS PRODUCT, COMPLY WITH ALL ELECTRICAL CODES. IN ADDITION, TAKE THE NECESSARY PRECAUTIONS DURING INSTALLATION, SERVICE AND REPAIR TO PREVENT PERSONAL INJURY, PROPERTY LOSS AND EQUIPMENT DAMAGE.

REV	DESCRIPTION	BY	DATE	ECO
A	INITIAL RELEASE	CAR	02/21/06	P043-003

Certified Product
 No changes permitted
 without reference to the
 "Notified Body (NB)"

SEE SHEET 2 FOR NOTES

DO NOT SCALE DRAWING			
NAME	DATE	NEXT GRP.	
DESIGNER	C. ROUTHIER	2/19/04	ASSEMBLY
PROJECT	J. BEVINS	2/19/04	FORM NO.
MATERIAL			
VEEDER-ROOT SIMSBURY, CONNECTICUT 06070 U.S.A.			
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REFERENCE	DESCRIPTIVE SYS DOCUMENT		
MFG. SPEC.	ATEX TLS RADIO GROUP		
WHERE IT IS APPLICABLE	DRAWING NUMBER	REV.	STATUS
UNSPECIFIED TOLERANCES	D 331940-005	A	NFP
+/- 0.005	SCALE	NONE	SHEET 1 OF 2

NOTES:

1. THE MAXIMUM CABLE LENGTH CONNECTING THE BATTERY PACK TO THE RF TRANSMITTER SHALL NOT EXCEED 7.62 METERS OR 25 FEET.
2. A MAXIMUM CABLE LENGTH OF 152 METERS OR 500 FEET IS ALLOWED TO CONNECT ANY SINGLE I.S. DEVICE TO THE RF TRANSMITTER. THE TOTAL ALLOWABLE CABLE LENGTH USED TO CONNECT ALL OF THE I.S. DEVICES TO THE RF TRANSMITTER IS 305 METERS OR 1,000 FEET.
3. EACH CABLE (OR WIRING) USED TO CONNECT I.S. DEVICES TO THE RF TRANSMITTER MUST NOT EXCEED A CAPACITANCE OF 328 pf/METER OR 100 pf/FOOT.
4. THE TOTAL CABLE CAPACITANCE, COMBINING ALL OF THE CABLE USED TO CONNECT THE INTRINSICALLY SAFE DEVICES TO THE ASSOCIATED APPARATUS, MUST NOT EXCEED 0.1 μ f.
5. EACH CABLE MUST NOT EXCEED AN INDUCTANCE OF 0.656 μ H/METER OR 0.2 μ H/FOOT.
6. THE L/R RATIO OF THE CABLE MUST NOT EXCEED 200 μ H/OHM.
7. A RISK ANALYSIS MUST BE PERFORMED TO DETERMINE IF THE INSTALLATION LOCATION IS SUSCEPTIBLE TO LIGHTNING OR OTHER SURGES. IF NECESSARY, ADD PROTECTION AGAINST LIGHTNING AND OTHER ELECTRICAL SURGES IN ACCORDANCE WITH EN 60079-25, SECTION 10.
8. SPECIAL CONDITIONS, SAFE USE, AS APPLICABLE AND AS DEFINED IN THE CERTIFICATE OF CONFORMITY AND INSTALLATION INSTRUCTIONS MUST BE TAKEN INTO ACCOUNT.



SIMSBUURY,
CONNECTICUT 06070
U.S.A.

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DESCRIPTIVE SYS DOCUMENT
ATEX TLS RADIO GROUP

SIZE	D	DRAWING NUMBER	331940-005	REV.	A	STATUS	NFP
SCALE	NONE	SHEET	2	OF	2		

EC Declaration of Conformity

The Manufacturer declares that the products:

TLS SYSTEM FOR INVENTORY MEASUREMENT AND LEAK DETECTION OF FLAMMABLE LIQUID STORAGE TANKS & PIPING

Equipment Group II (1)G [Ex ia] IIA

are in compliance with the following EC directive (including all applicable amendments):

ATEX Directive 94/9/EC

the following harmonised technical standards have been applied:

EN 50014:1997+A1/A2:1999	Electrical Apparatus for Explosive Gas Atmospheres General Requirements
EN 50020:2002	Electrical Apparatus for Explosive Gas Atmospheres Intrinsic Safety
EN 60079-0:2006	Electrical Apparatus for Explosive Gas Atmospheres General Requirements
EN 60079-11:2007	Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety “I”
EN 60079-25:2004	Electrical Apparatus for Explosive Gas Atmospheres – Part 25: I. S. Electrical Systems
EN 60079-26:2004	Construction, test and marking of group II, Category 1G Electrical Apparatus

and be produced in compliance with the model approved by the EC type- examination certificate:

DEMKO 06 ATEX 137480X

issued by the following notified body:

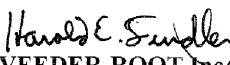
UL International Demko A/S P.O. Box 514 Lyskaer 8, DK-2730 Herlev, Denmark; No. 0539

and furthermore comply with the provisions of the following EC directive (including all applicable amendments):

LVD Directive 2006/93/EC, EMC Directive 2004/108/EC

the following harmonised technical standards have been applied:

EN 61010-1:2001	Safety Requirements for Electrical Equipment for Measurement, Control and Laboratory Use – Part 1 – General Requirements
EN 55024:1998+A1:2001+A2:2003	Information technology equipment. Immunity characteristics
EN 55022:1998+A1:2000+A2:2003	Information technology equipment. Radio disturbances characteristics
EN 61000-3-2:2000	Limits – Section 2: Limits for harmonic current emissions
EN 61000-3-3:1995+A1:2001	Limits – Section 3: Limits of voltage fluctuations and flicker


VEEDER-ROOT Inc.
Quality Assurance Manager
Harold Findley

Signatory Location: Altoona, PA USA; **Date:** May 8, 2009