

SYSTEM DESCRIPTIVE DOCUMENT FOR CERTIFICATE NUMBER:
 DEMKO 10 ATEX 1006740X
 IECEx UL 14.0029X

REV	DESCRIPTION	BY	DATE	ECO
A	INITIAL RELEASE	CAR	10/28/03	DEMR-069
B	INCORPORATED CHANGES PER MARK-UP	K.G.	09/02/10	CN-01924
C	ADDED IECEx TO DRAWING.	TB	2014/05/29	CN-07990

ELECTRONIC METER REGISTER

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

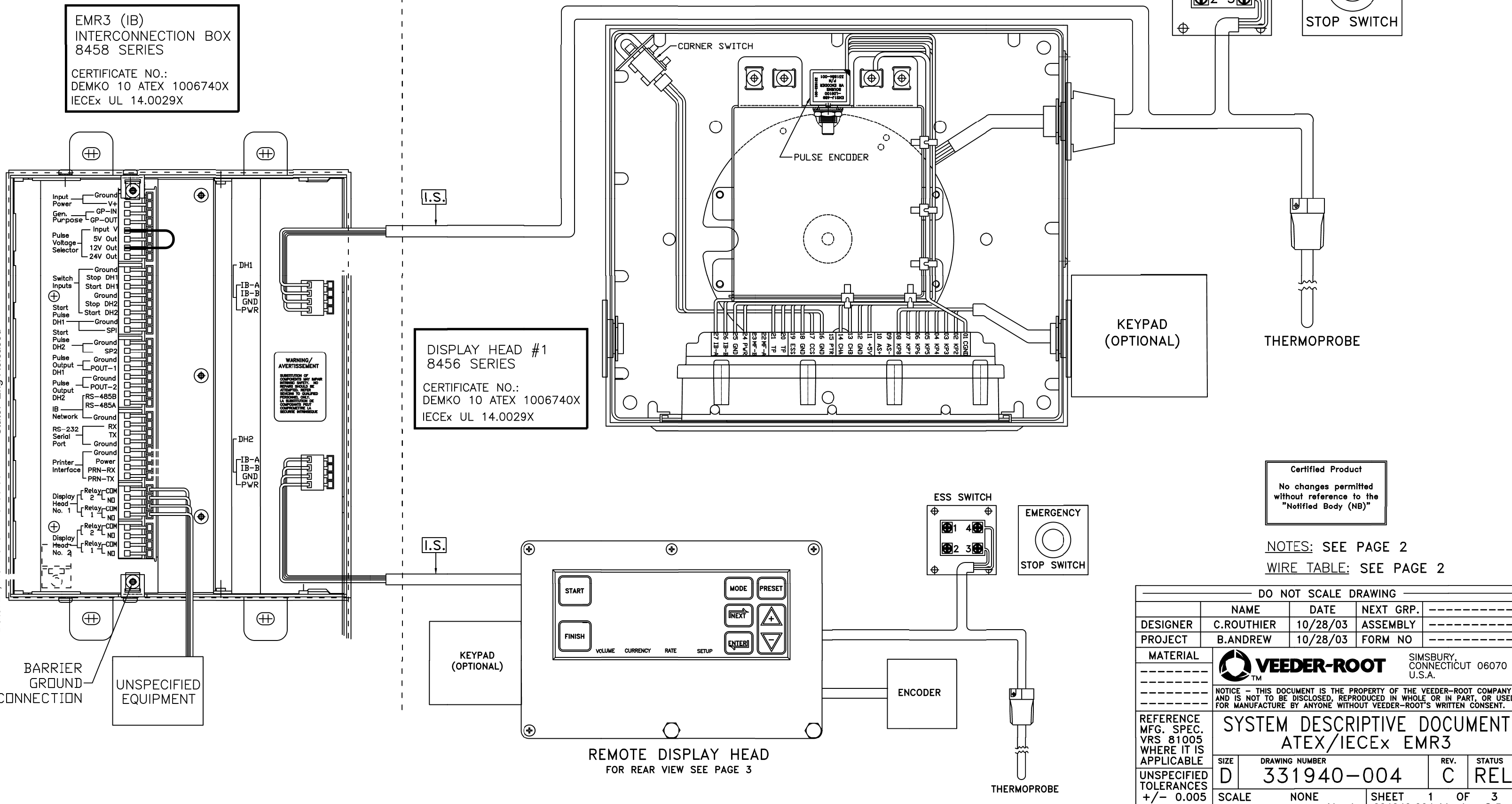
NON-HAZARDOUS AREA
 ASSOCIATED APPARATUS

HAZARDOUS AREA
 INTRINSICALLY SAFE (I.S.) APPARATUS

Ex II 1 G Ex ia IIA T4 Ga
 Ex ia IIA T4 Ga

EMR3 (IB)
 INTERCONNECTION BOX
 8458 SERIES
 CERTIFICATE NO.:
 DEMKO 10 ATEX 1006740X
 IECEx UL 14.0029X

DISPLAY HEAD #1
 8456 SERIES
 CERTIFICATE NO.:
 DEMKO 10 ATEX 1006740X
 IECEx UL 14.0029X



WARNING/
 AVERTISSEMENT
 SUBSTITUTION OF COMPONENTS MAY IMPAIR
 INTRINSIC SAFETY. NO REPAIRS SHOULD BE
 ATTEMPTED UNLESS THE SUBSTITUTION IS
 APPROVED BY THE MANUFACTURER. LA
 SUBSTITUTION DE COMPOSANTS PEUT
 COMPROMETRE LA SECURITE INTRINSEQUE.

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

NOTES: SEE PAGE 2
 WIRE TABLE: SEE PAGE 2

DO NOT SCALE DRAWING				
DESIGNER	NAME	DATE	NEXT GRP.	
C.ROUTHIER	C.ROUTHIER	10/28/03	ASSEMBLY	
B.ANDREW	B.ANDREW	10/28/03	FORM NO	
MATERIAL		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.				
SYSTEM DESCRIPTIVE DOCUMENT ATEX/IECEx EMR3				
REFERENCE MFG. SPEC. VRS 81005 WHERE IT IS APPLICABLE	SIZE	DRAWING NUMBER	REV.	STATUS
UNSPECIFIED TOLERANCES +/- 0.005	D	331940-004	C	REL
SCALE	NONE	SHEET	1 OF 3	

Date: 21, Mar 2018 Time: 03:05PM State: Eng Released Name: John Noble

NOTES:

1. EACH CABLE RUN (OR WIRING) USED TO CONNECT I.S. DEVICES TO THE IB MUST NOT EXCEED A RATED CAPACITANCE OF 328 pf/METER OR 100 pf/FOOT.
2. EACH CABLE RUN MUST NOT EXCEED A RATED INDUCTANCE OF 0,656 μH/METER OR 0,2 μH/FOOT.
3. DELETED
4. DELETED
5. INTRINSICALLY SAFE DEVICE CONNECTIONS: CONNECT ONLY 1 ELECTRONIC METER REGISTER DISPLAY HEAD OR REMOTE DISPLAY TO THE DH1 TERMINALS. CONNECT ONLY 1 ELECTRONIC METER REGISTER DISPLAY HEAD OR REMOTE DISPLAY TO THE DH2 TERMINALS.
6. NON-HAZARDOUS AREA APPARATUS WHICH IS UNSPECIFIED EXCEPT THAT IT 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.
7. CONNECT THE BARRIER GROUND TO THE EARTH GROUND BUS AT THE POWER DISTRIBUTION PANEL WITH 4 sq mm (10 AWG) OR LARGER CONDUCTOR. GROUNDING MUST COMPLY WITH EN 60079-14, CLAUSE 6.3.
8. 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 610 METERS OR 2,000 FEET. THE CABLE BETWEEN THE EMR3 DISPLAY HEAD AND THE EMERGENCY STOP SWITCH, CORNER SWITCH, THERMOPROBE, PULSE ENCODER AND THE KEY PAD MUST BE LESS THAN 35 METERS OR 113 FEET TOTAL.
9. A RISK ANALYSIS MUST BE PREFORMED 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.
10. THE AMBIENT TEMPERATURE RANGE FOR THE INTERCONNECT BOX IS -25°C TO +40°C. THE AMBIENT TEMPERATURE FOR THE DISPLAY HEAD, EMERGENCY STOP SWITCH, THERMOPROBE, CORNER SWITCH, ROTARY PULSE ENCODER AND KEYPAD IS -40°C TO +60°C.
11. SPECIAL CONDITIONS, SAFE USE, AS APPLICABLE AND AS DEFINED IN THE CERTIFICATE OF CONFORMITY, INSTALLATION INSTRUCTIONS AND THE SYSTEM DESCRIPTIVE DOCUMENT, 331940-004, MUST BE TAKEN INTO ACCOUNT.


THE EMR DISPLAY HEAD, REMOTE DISPLAY HEAD, KEYPAD, PULSE ENCODER, THERMOPROBE, ESS SWITCH AND CORNER SWITCH CONTAIN ALUMINUM. CARE MUST BE TAKEN TO AVOID IGNITION HAZARDS DUE TO IMPACT OR FRICTION.

THE DEVICES HAVE NOT BEEN EVALUATED FOR USE ACROSS A BOUNDARY WALL.
12. THIS SYSTEM DESCRIPTIVE DOCUMENT DESCRIBES THE INTRINSICALLY SAFE EQUIPMENT AND ASSOCIATED APPARATUS THAT TOGETHER FORM AN INTRINSICALLY SAFE SYSTEM.
13. EMR3 IB BOXES MUST BE INSTALLED IN AN INDOOR, NON-HAZARDOUS AREA IN ACCORDANCE WITH THE DESCRIPTIVE SYSTEM DOCUMENT AND THE INSTALLATION INSTRUCTIONS. AN EMR3 IB CAN BE CONNECTED TO ANY INTRINSICALLY SAFE APPARATUS AS DESCRIBED ON SHEET ONE OF THIS DOCUMENT. MULTIPLE SOURCES OF POWER, ADDITIONAL EMR3 IB BOXES OR OTHER ASSOCIATED APPARATUS, CANNOT BE CONNECTED TO THE SAME INTRINSICALLY SAFE APPARATUS.

STANDARDS:

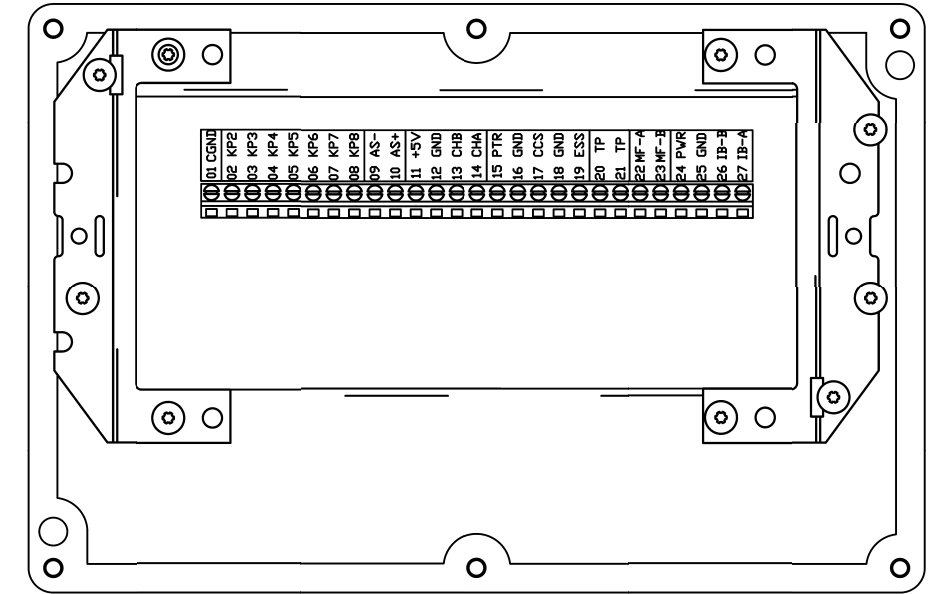
IEC 60079-0	ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES-PART 0: GENERAL REQUIREMENTS, 6TH EDITION
IEC 60079-11	ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES-PART 11: INTRINSIC SAFETY "I", 6TH EDITION
IEC 60079-25	ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES-PART 25: INTRINSICALLY SAFE SYSTEMS, 2ND EDITION
IEC 60079-26	ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES - PART 26: EQUIPMENT WITH EQUIPMENT PROTECTION LEVEL (EPL) Ga, 2ND EDITION
EN 60079-0	ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES-PART 0: GENERAL REQUIREMENTS
EN 60079-11	ELECTRICAL APPARATUS FOR POTENTIALLY EXPLOSIVE ATMOSPHERES-PART 11: INTRINSIC SAFETY "I"
EN 60079-25	ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES-PART 25: INTRINSICALLY SAFE SYSTEMS
EN 60079-26	ELECTRICAL APPARATUS FOR EXPLOSIVE GAS ATMOSPHERES - PART 26: CONSTRUCTION, TEST AND MARKING OF GROUP II ZONE 0 ELECTRICAL APPARATUS.

FOR I.S. CABLE AND WIRE DESCRIPTIONS SEE PAGE 3

		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.			
SYSTEM DESCRIPTIVE DOCUMENT ATEX/IECEX EMR3			
SIZE	DRAWING NUMBER	REV.	STATUS
D	331940-004	C	REL
SCALE	NONE	SHEET 2	OF 3

EMR3 I.S. CABLE AND WIRE DESCRIPTIONS

<u>SIMPLE APPARATUS</u>	<u>MAXIMUM LENGTH</u>	<u>TYPE</u>
THERMOPROBE	7,620 mm 25 FT	EXTERNAL CABLE, 2 CONDUCTOR
ROTARY ENCODER	10,668 mm 35 FT	INTERNAL WIRE, 4 CONDUCTOR
EMR MODE SWITCH	7,620 mm 25 FT	INTERNAL WIRE, 2 CONDUCTOR
OPTIONAL KEYPAD	915 mm 3 FT	INTERNAL WIRE, 7 CONDUCTOR
EMERGENCY STOP SWITCH	7,620 mm 25 FT	EXTERNAL CABLE, 2 CONDUCTOR
DISPLAY HEAD OR REMOTE DISPLAY HEAD	305 METERS 1000 FT	EXTERNAL CABLE, 4 CONDUCTOR



**REMOTE DISPLAY HEAD
(BODY REMOVED FOR CLARITY)
WIRING IDENTICAL TO DISPLAY HEAD**

WIRE TABLE			PULSE ENCODER WIRE CONNECTIONS			KEYPAD CABLE CONNECTIONS		CORNER SWITCH CABLE CONNECTIONS		
IB BOX CABLE CONNECTIONS			TERMINAL			TERMINAL		TERMINAL		
TERMINAL	SIGNAL	WIRE COLOR	TERMINAL	SIGNAL	WIRE COLOR	TERMINAL	WIRE COLOR	TERMINAL	SIGNAL	WIRE COLOR
24	PWR	RED	11	+5V	RED	02 KP2	RED	16	GND	YELLOW
25	GND	BLACK	12	GND	BLACK	03 KP3	BLACK	17	CCS	YELLOW
26	IB-B	WHITE	13	CHB	WHITE	04 KP4	WHITE			
27	IB-A	GREEN	14	CHA	GREEN	05 KP5	GREEN			
ESS (OPTIONAL) SWITCH CONNECTIONS			THERMOPROBE (OPTIONAL) CABLE CONNECTIONS			06 KP6				
TERMINAL	SIGNAL	WIRE COLOR	TERMINAL	SIGNAL	WIRE COLOR	07 KP7	BLUE			
18	GND	BLACK	20	TP	BLACK	08 KP8	ORANGE			
19	ESS	WHITE	21	TP	WHITE					

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.

**SYSTEM DESCRIPTIVE DOCUMENT
ATEX/IECEX EMR3**

SIZE	DRAWING NUMBER	REV.	STATUS
D	331940-004	C	REL
SCALE	NONE	SHEET	3 OF 3

Number: 331940-004 Version: C.5