Modular Analyzing System
Protos Type 3400X */*** and Protos II Type 4400X */***

Hazardous Location
Enclosure NEMA Type 4X, IP 65
Tamb = −20 °C to 50 °C

Base 3400X */* or 4400X */***, Front 4400X *-01***
Class I, Zone 1, AEx eb ib mb [ia Ga] Group IIC T4 Gb (US)
Class I, Zone 1, Ex eb ib mb [ia Ga] Group IIC T4 Gb (CA)
NI Class I, Division 2, Groups ABCD T4 — NI Class II,III, Division 2, Groups FG
including nonincendive field wiring — including nonincendive field wiring

or with ZU1042
Class I, Zone 1, AEx ec ib mb [ia Ga] Group IIC T4 Gb (US)
Class I, Zone 1, Ex ec ib mb [ia Ga] Group IIC T4 Gb (CA)
NI Class I, Division 2, Groups ABCD T4 — NI Class II,III, Division 2, Groups FG

Measuring Modules
PH 3400X−03*, COND 3400X−04*, OXY 3400X−06*, CONDI 3400X−05*, CO2 3400X−130, MS 3400X−16*, PHU 3400X−11*, FIU 3400X−140−2, COM 3400X−08*, MS 4400X−16*, MSU 4400X−18***
Class I, Zone 1, AEx ib [ia Ga] Group IIC T4 Gb (US)
Class I, Zone 1, Ex ib [ia Ga] Group IIC T4 Gb (CA)
IS Class I, Division 1, Groups ABCD — IS Class II,III, Division 1, Groups EFG
associated apparatus / appareillage associé — associated apparatus / appareillage associé
NI Class I, Division 2, Groups ABCD T4 — NI Class II,III, Division 2, Groups FG
nonincendive field wiring — nonincendive field wiring

Communication Modules
OUT 3400X−071, PID 3400X−121
Class I, Zone 1, AEx ib Group IIC T4 Gb (US)
Class I, Zone 1, Ex ib Group IIC T4 Gb (CA)
NI Class I, Division 2, Groups ABCD T4 — NI Class II,III, Division 2, Groups FG
nonincendive field wiring — nonincendive field wiring

Installation Notes for hazardous Locations
See Attachment to Certificate of Conformity IECEx DEK 11.0054 for entity parameters and Installation Guide for electrical, mechanical and environmental parameters.

1. The Intrinsic Safety Entity concept allows the interconnection of NRTL approved intrinsically safe devices with entity parameters not specifically examined in combination as a systems when:
Uo or Voc or Vt ≤ Vmax, Io or Isc or It ≤ Imax. Po ≤ Pi. Ca or Co ≥ Σ Ci + Σ Ccable. For inductance use either
La or Lo ≥ Σ Li + Σ Lcable or Le/Re ≤ (La/Ra or Lo/Ro) and Li/Ri ≤ (La/Ra or Lo/Ro)

2. Nonincendive field wiring methods may be used for connecting apparatus/sensors in division 2.
Nonincendive field wiring apparatus shall not be connected in parallel.
Rules of the Intrinsic Safety Entity concept apply.

3. Dust-tight conduit seals must be used when installed in Class II and Class III environments.

4. Only NRTL certified cable glands conforming to UL2225 shall be used. Observe the installation requirements of the manufacturer.

5. Control equipment in division 2 installations connected to the signal terminals with defined Um must not use or generate more than 60 Vrms or Vdc.
The control room equipment connected to the Power Supply terminals shall not generate more than 253 Vrms or Vdc.
WARNING – EXPLOSION HAZARD
Do not disconnect while the circuit is live or unless the area is free of ignitible concentrations.
AVERTISSEMENT – RISQUE D'EXPLOSION
Ne pas débrancher pendant que le circuit est sous tension ou à moins que l'emplacement ne soit exempt de concentrations inflammables.

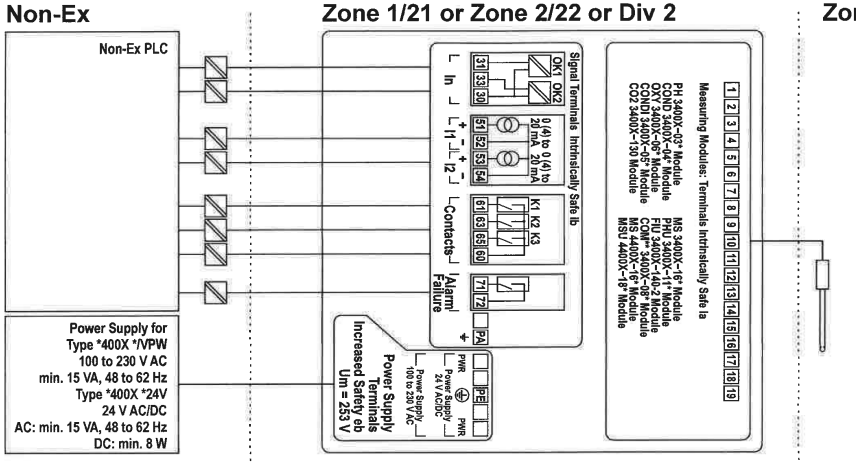
6. Installation shall be in accordance with ANSI/ISA RP12.06.01 (except chapter 5 for FISCO Installations). "Installation of Intrinsically Safe Systems for Hazardous (Classified) Locations" or the National or Canadian Electrical Code as applicable. Use only cables with a temperature rating of at least 75°C (167°F).

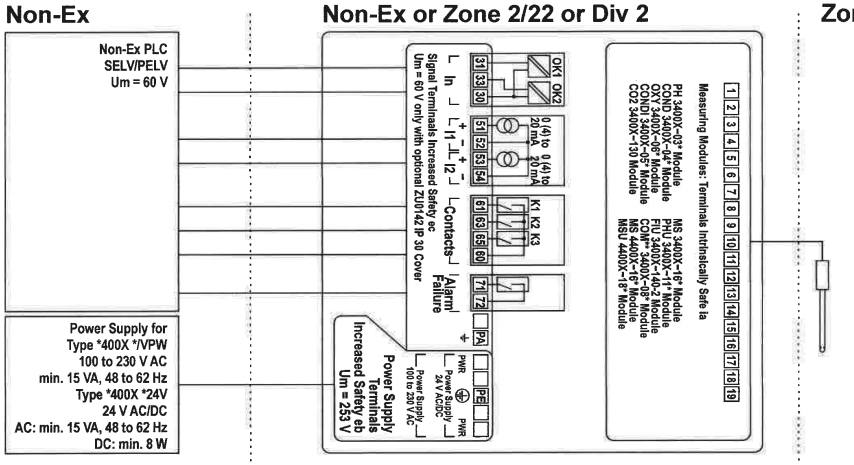
7. Changes to this control drawing must be authorised by FM Approvals.

8. The intrinsically safe or the associated apparatus connecting to 30, 31, 33, 51, 52, 53, 54, 60, 61, 63, 65, 71, 72 must be NRTL Approved or be a simple apparatus (a simple circuits with well defined parameters, which is not an energy source generating more than 1.5 V, 0.1 A, 25 mW).

9. The intrinsically safe (Division 1) or nonincendive field wiring (Division 2) apparatus/sensors connecting to the measuring/communication modules must be NRTL Approved or be a simple apparatus.

10. The internal PE-terminal shall be used to connect the protective grounding wire, if any, of the power supply cable. The supplementary external grounding terminal shall be used for equipotential bonding and grounding where local codes or authorities permit or require such connection.





Nr.	Änderungen	Datum	Bearb.	Freigabe
4	MSU 4400X-18	08.12.22	kmn	
3	cFMus Control Drawing	19.08.19	dam	
2	Protos II	25.09.18	dam	
–	neu Inventor	–	–	–

Zul. Abweichungen für Maße ohne Toleranzangabe

	Datum	Name
Bearbeitet	28.08.2003	dam
Geprüft	6.1.23	
Freigabe	6.1.23	

Schutzvermerk nach ISO16016 beachten.

Knick Elektronische Messgeräte GmbH & Co. KG

Maßstab

Zulassung cFMus FM19US0234X
cFMus FM19CA0127X

Benennung Control Drawing
Protos Type 3400X */***
Protos II Type 4400X */***

Zeichnungsnummer 201.003-170

Blatt 1 Bl.