




Supplement to the Quick Start for category 3 apparatus (Ex zone 2)

1.1 General

This supplement is valid for the following flowmeters, provided with these markings:

Flowmeter	marking
OPTIFLUX 1300 C OPTIFLUX 2300 C OPTIFLUX 4300 C OPTIFLUX 5300 C OPTIFLUX 6300 C	 II 3G Ex [ic] nA IIC T4...T3 Gc
OPTIFLUX 1000 F OPTIFLUX 2000 F OPTIFLUX 4000 F OPTIFLUX 5000 F OPTIFLUX 6000 F	 II 3G Ex ic nA IIC T4...T3 Gc
IFC 300 F	 II 3G Ex [ic] nA IIC T4 Gc

1.2 Installation Instructions for safe use

- Installation and connection of the flowmeter must be realized conform standard EN IEC 60079-14 ("Electrical Installations in hazardous areas, other than mines") or equivalent national standard.

Electrical data of terminals / connections:

OPTIFLUX x300C (X=1, 2, 4, 5 or 6) and IFC 300F	
Terminals	Type of Ex protection / electrical data
Mains: L, N	Ex nA $U_n = 100...230 \text{ VAC}, 12...24 \text{ VDC}$ or 24 VAC/DC (order specific). $P_n: 22 \text{ VA}$ or 12 W.
I/O: A, A-, A+, B, B-, C, C-, D, D-	Ex nA $U_n < 32 \text{ V}, I_n < 100 \text{ mA}$

Additionally IFC 300 F only	
Terminals	Type of Ex protection / electrical data
Field current: 7, 8, 9	Ex nA $U_n < 40 \text{ V}$, $I_n < 125 \text{ mA}$
Electrode circuit: 1, 2, 20, 3, 30, 4, 40:	Ex [ic] $U_o = 14 \text{ V}$, $I_o = 70 \text{ mA}$, $P_o = 300 \text{ mW}$, $C_o = 430 \text{ nF}$, $L_o = 2 \text{ mH}$

OPTIFLUX x000 F (X=1, 2, 4, 5 or 6)	
Terminals	Type of Ex protection / electrical data
Field current: 7, 8, 9	Ex nA $U_n < 40 \text{ V}$, $I_n < 125 \text{ mA}$
Electrode circuit: 1, 2, 3, 4 :	Ex [ic] $U_i = 20 \text{ V}$, $I_i = 175 \text{ mA}$, $C_i = 0 \text{ nF}$, $L_i = 0 \text{ mH}$

Notes:

- The Ex [ic] electrode circuit of the OPTIFLUX x300 C (compact flowmeter) is an internal circuit. Hence no U_i , I_i , P_i etc. parameters are applicable for this circuit.
- Connections to mains (L, N or L+, L-), signal I/O (A, A-, A+, B, B-, C, C-, D and D-) and field current (7, 8, 9) can only be made when the flowmeter is not energized or when there is no explosive gas atmosphere surrounding the flowmeter.

1.3 Cable entries

The flowmeters are default provided with the following cable entries:

OPTIFLUX x300 C	2 x cable glands M20x1,5 and 1x blind plug M20x1,5
IFC 300 F	4 x cable glands M20x1,5 and 1x blind plug M20x1,5
OPTIFLUX x000 F	2 x cable glands M20x1,5

- All cable glands are suitable for cables in a diameter range of $\varnothing 6 - 12$
- Cable glands must have an IP degree to EN 60529 of at least IP54.
The glands must be suitable for the types of cables used.
For example the sealing ring must be suitable for the outer diameter of the cables.

1.4 Temperature classes

- The temperature class T4 or T3 of OPTIFLUX x300 C and OPTIFLUX x000 F, depends on the ambient temperature T_a and the maximum liquid or medium temperature T_m , according to following table:

maximum T_m [°C]	$T_a < 40$ °C	$40 \leq T_a < 50$ °C	$50 \leq T_a < 60$ °C
T4	130	130	60
T3	140	--	--

1.5 Heat resistance

- Use heat resistant cables for the OPTIFLUX x000 F flowmeters with exceeding values of the maximum liquid or medium temperature T_m and/or ambient temperatures (T_a) as listed below:

maximum liquid or medium temperature T_m [°C]			
Flowmeter	$T_a \leq 40$ °C	$40 < T_a \leq 50$ °C	$50 < T_a \leq 60$ °C
OPTIFLUX 1000 F	165	130	100
OPTIFLUX 2000 F	--	145	105
OPTIFLUX 4000 F	--	145	105
OPTIFLUX 5000 F	165	130	100
OPTIFLUX 6000 F	--	150	110