

FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

CERABAR-S PMP7a-bcdefghikl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T*— 960006699, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006699

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I, II, III / 2 / ABCDEFG / T*— XA01063P, 960006699, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Dual seal device acc. ANSI / ISA 12.27.01 up to MWP=200 bar

Single seal device acc. ANSI / ISA 12.278.01 up to MWP=400 bar

Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	30	200	1	11.8	225

For option c = D, E or F:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	30	200	1	11.8	0

For option c = M, N, O, P, Q, or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wire Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (Ta), and process medium temperatures (Tmed), refer to Control Drawing.

a = Model 1 or 5.

b = S, Q, or R representing approval

S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

c = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons (Li = 0)	P: Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display (Li = 0)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART (Li = 0)	R: Foundation Fieldbus

d = Enclosure, aluminum or stainless steel housing with different cable entries, with or without display, any single letter or number.

e = Pressure sensor, pressure ranges up to 700 bar, any dual letter or number combination.

f = Calibration, units; any single letter or number.

g = Material of diaphragm, any single letter or number.

h = Process connection/material; any dual letter or number combination representing industrial standard process connections.

i = Fill media: any single letter or number.

k = Options: E (SIL, not verified by FM), F (NSF approval), M (overvoltage protection), N (HistoROM), S (marine approval or any single letter or number representing non safety relevant options).

l = Additional options: E (SIL, not verified by FM), F (NSF approval), G(separated housing), M(overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

CERABAR-S PMP72-bcdefghikl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T*— 960006699, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006699

DIP / II, III / 1 / EFG / T4 T*, Type 4X, Type 6P;

NI / I / 2 / ABCD / T*— 960006699, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Entity Parameters

Terminals	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	30	200	1	11.8	225

For option c = D, E or F:

Terminals	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	30	200	1	11.8	0

For option c = M, N, O, P, Q or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Etity Parameters:

Terminal s	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

b = S, Q, or R representing approval

S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

c = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons ($L_i = 0$)	P: Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display ($L_i = 0$)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART ($L_i = 0$)	R: Foundation Fieldbus

d = Enclosure, aluminum or stainless steel housing with different cable entries, with or without display, any single letter or number.

e = Pressure sensor, pressure ranges up to 40 bar, any dual letter or number combination.

f = Calibration, units; any single letter or number.

g = Material of diaphragm, any single letter or number.

h = Process connection/material; any dual letter or number combination representing industrial standard process connections.

i = Fill media, temperature decoupling, any single letter or number.

k = Options: E (SIL, not verified by FM), F (NSF approval), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

l = Additional options: E (SIL, not verified by FM), F (NSF approval), G (separated housing), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

CERABAR-S PMC71-bcdefghikl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T*— 960006699, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006699

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I, II, III / 2 / ABCDEFG / T*— XA01063P, 960006699, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Dual seal device acc. ANSI/ ISA 12.27.01 up to MWP=40 bar

Entity Parameters:

Terminal s	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	30	200	1	11.8	225

For option c = D, E or F:

Terminal s	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	30	200	1	11.8	0

For option c = M, N, O, P, Q, or R:

Terminal s	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wire Parameters (NIFW):

Terminal s	Groups	V _{Max} (V)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Entity Parameters:

Terminal s	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

b = E, S, Q, or R representing approval

E: FM / CSA IS Cl. I Div. 1 ABCD DIP Cl. II EFG Cl. III / ATEX 1/2 GD EEx ia IIC T6
S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

c = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons (L _i = 0)	P: Foundation Fieldbus, with display, ext. pushbuttons

E: 4..20 mA, HART with display (Li = 0)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART (Li = 0)	R: Foundation Fieldbus

d = Enclosure, aluminum or stainless steel housing with different cable entries, with or without display, any single letter or number.

e = Pressure sensor, pressure ranges up to 40 bar, any dual letter or number combination.

f = Calibration, units; any single letter or number.

g = Material of diaphragm, any single letter or number.

h = Process connection/material; any dual letter or number combination representing industrial standard process connections.

i = Gasket material, any single letter or number.

k = Options: E (SIL, not verified by FM), F (NSF approval), M (overvoltage protection), N (HistoROM), S (marine approval), T (high temp. version), or any single letter or number representing non safety relevant options.

l = Additional options: E (SIL, not verified by FM), F (NSF approval), G(separated housing), M(overvoltage protection), N (HistoROM), S (marine approval), T (high temp. version), or any single letter or number representing non safety relevant options.

DELTABAR-S PMD70-abcdefghi. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T*— 960006696, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006696

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I / 2 / ABCD / T*— XA01064P, 960006696, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Single seal device acc. ANSI / ISA 12.27.01 up to MWP = 100 bar

Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (mW)	C_i (μF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	225

For option b = D, E or F:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	0

For option b = M, N, O, P, Q or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

a = E, S, Q, or R representing approval

E: FM / CSA IS Cl. I div. 1 ABCD DIP Cl. II EFG Cl. III / ATEX 1/2 GD EExia IIC T6
S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

b = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons (Li = 0)	P: Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display (Li = 0)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART (Li = 0)	R: Foundation Fieldbus

c = Enclosure, aluminum or stainless steel housing with different cable entries or connectors, any single letter or number.

d = Pressure sensor, range up to 150 bar static pressure, any dual letter or number combination.

e = Calibration, units; any single letter or number.

f = Process connection, material, any single letter or number representing industrial standard process connections.

g = Material of sealing; any single letter or number.

h = Options: E (SIL, not verified by FM), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options

i = Additional options: E (SIL, not verified by FM), G (separated housing), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options

DELTABAR-S FMD76-abcdefghi. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T* — 960006696, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006696

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I / 2 / ABCD / T*— XP01064P, 960006696, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Single seal device acc. ANSI / ISA 12.27.01 up to MWP = 100 bar

Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (mW)	C_i (μF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	225

For option b = D, E or F:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	0

For option b = M, N, O, P, Q or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

a = E, S, Q, or R representing approval

E: FM / CSA IS Cl. I div. 1 ABCD DIP Cl. II EFG Cl. III / ATEX 1/2 GD EEExia IIC T6
S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD
R: FM NI Cl. I, Div. 2, ABCD

b = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons ($L_i = 0$)	P: Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display ($L_i = 0$)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART ($L_i = 0$)	R: Foundation Fieldbus

c = Enclosure, aluminum or stainless steel housing with different cable entries or connectors, any single letter or number.

d = Pressure sensor, range up to 150 bar static pressure, any dual letter or number combination.

e = Calibration, units; any single letter or number.

f = Process connection, material, any single letter or number representing industrial standard process connections.

g = Material of sealing; any single letter or number.

h = Options: E (SIL, not verified by FM), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options

i = Additional options: E (SIL, not verified by FM), G (separated housing), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

DELTABAR-S PMD75-abcdefghijkl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T* — 960006696, Entity, 960006703, FISCO, Type 4X, Type 6P; I / 0 / AEx ia IIC T* - per Control Dwg. 960006696

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;
 NI / I / 2 / ABCD / T*— XA01064P, 960006696, NIFW, 960006703, FNICO, Type 4X, Type 6P
 Single seal device acc. ANSI / ISA 12.27.01 up to MWP = 420 bar

Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (mW)	C_i (nF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	225

For option b = D, E or F:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	0

For option b = M, N, O, P, Q or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

a = S, Q, or R representing approval

S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II, Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

b = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons ($L_i = 0$)	P: Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display ($L_i = 0$)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART ($L_i = 0$)	R: Foundation Fieldbus

c = Enclosure, aluminum or stainless steel housing with different cable entries, with or without display, any

single letter or number.

d = Pressure sensor, range PMD75 up to 420 bar static pressure, any dual letter or number combination.

e = Calibration, units; any single letter or number.

f = Material of diaphragm, any single letter or number.

g = Process connection, material; any single letter or number representing industrial standard process connections.

h = Material of sealing, any single letter or number.

i = Options: E (SIL, not verified by FM), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

k = Additional options: E (SIL, not verified by FM), G (separated housing), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

DELTABAR-S FMD77-abcdefghijkl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T*— 960006696, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006696

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I / 2 / ABCD / T*— XA01064P, 960006696, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Single seal device acc. ANSI / ISA 12.27.01 up to MWP = 420 bar

Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (mW)	C_i (nF)	L_i (μ H)
+ and -	A/B	30	200	1	11.8	225

For option b = D, E or F:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	30	200	1	11.8	0

For option b = M, N, O, P, Q or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μ H)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

a = S, Q, or R representing approval

S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II, Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG

R: FM NI Cl. I, Div. 2, ABCD

b = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M:Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons (Li = 0)	P:Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display (Li = 0)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART (Li = 0)	R: Foundation Fieldbus

c = enclosure, aluminum or stainless steel housing with different cable entries or connectors, any single letter or number

d = pressure sensor, range up to 160 bar static pressure, any dual letter or number combination

e = calibration, units; any single letter or number

f = material of diaphragm, any single letter or number

g = process connection/low pressure side/material/seal; any single letter or number representing industrial standard process connections

h = process connection/high pressure side/material, any single letter or number representing industrial standard process connections

i = fill media, any single letter or number

k = Options: E (SIL, not verified by FM), M (overvoltage protection), N (HistoROM), S (marine approval), U (mounting bracket), V (fitting mounted), 2 (2.2 test report), 3 (3.1 test report), 4 (3.1 pressure test), 5 (3.1 leakage test), 9 or Y (special version, not safety relevant: e.g. multiple combinations between "k" and "l"; siliconfree version; enclosure with special varnish; polished surfaces or equivalent, material certificates acc. customer requirements e.g. NACE MR0175, customer specific marking e.g. TAG no.), or any single letter or number representing non safety relevant options.

l = Additional options: E (SIL, not verified by FM), G(separated housing), M(overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

DELTABAR-S FMD78-abcdefghijkl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T*— 960006696, Entity, 960006703, FISCO, Type 4X, Type 6P;

I / 0 / AEx ia IIC T* - per Control Dwg. 960006696

DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I / 2 / ABCD / T* T*— XA01064P, 960006696, NIFW, 960006703, FNICO, Type 4X, Type 6P;

Single seal device acc. ANSI / ISA 12.27.01 up to MWP = 420 bar

Entity Parameters:

Terminals	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (mW)	C _i (nF)	L _i (μH)
+ and -	A/B	30	200	1	11.8	225

For option b = D, E or F:

Terminals	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)
+ and -	A/B	30	200	1	11.8	0

For option b = M, N, O, P, Q or R:

Terminals	Groups	V _{Max} (V)	I _{Max} (mA)	P _i (W)	C _i (nF)	L _i (μH)

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	24	250	1.2	5.0	225

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	17.5	500	5.5	0	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

a = S, Q, or R representing approval

S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II, Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

b = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext. pushbuttons ($L_i = 0$)	P: Foundation Fieldbus, with display, ext. pushbuttons
E: 4..20 mA, HART with display ($L_i = 0$)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART ($L_i = 0$)	R: Foundation Fieldbus

c = Enclosure, aluminum or stainless steel housing with different cable entries or connectors, any single letter or number.

d = Pressure sensor, range up to 160 bar static pressure, any dual letter or number combination.

e = Calibration, units; any single letter or number.

f = Material of diaphragm, any single letter or number.

g = Process connection/low and high pressure side/material/seal; any dual letter or number combination representing industrial standard process connections.

h = Fill media, length of capillary, any single letter or number.

i = Options E (SIL, not verified by FM), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

k = Additional options: E (SIL, not verified by FM), G (separated housing), M (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

DELTAPILOT-S FMB70-bcdefghikl. Pressure Transmitter.

IS / I, II, III / 1 / ABCDEFG / T* —960007651, Entity 960007738, FISCO, Type 4X,
I / 0 / AEx ia IIC T* - per Control Dwg. 960007651

Type 6P; DIP / II, III / 1 / EFG / T*, Type 4X, Type 6P;

NI / I, II, III / 2 / ABCDEFG / T*— XA01065P, 960007651, NIFW, 960007738, FNICO, Type 4X,
Type 6P; Single seal device acc. ANSI / ISA 12.27.01 up to MWP = 10 bar

Entity Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	225

For option c = D, E or F:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	30	200	1	11.8	0

For option c = M, N, O, P, Q, or R:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	24	250	1.2	5	10

Nonincendive Field Wiring Parameters (NIFW):

Terminals	Groups	V_{Max} (V)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A-D	45	1	11.8	225

FISCO and FNICO Parameters:

Terminals	Groups	V_{Max} (V)	I_{Max} (mA)	P_i (W)	C_i (nF)	L_i (μH)
+ and -	A/B	17.5	500	5.5	5	10

Special Conditions of Use:

1. For installation instructions and the Temperature Class (*), which applies to specific models, ambient temperatures (T_a), and process medium temperatures (T_{med}), refer to Control Drawing.

b = E, S, Q, or R representing approval

E: FM / CSA IS Cl. I Div. 1 ABCD DIP Cl. II EFG Cl. III / ATEX II 1/2 GD EEx ia IIC T6
S: FM IS Cl. I, II, III, Div. 1 ABCDEFG, NI Cl. I Div. 2 ABCD, DIP Cl. II Div. 1 EFG, Cl. III
Q: FM DIP Cl. II, III, Div. 1 EFG
R: FM NI Cl. I, Div. 2, ABCD

c = Electronic/Communication/Display A, B, C, D, E, F, M, N, O, P, Q or R.

A: 4..20 mA, HART with display, ext. pushbuttons	M: Profibus PA, with display, ext. pushbuttons
B: 4..20 mA, HART with display	N: Profibus PA, with display
C: 4..20 mA, HART	O: Profibus PA
D: 4..20 mA, HART with display, ext.	P: Foundation Fieldbus, with display, ext.

pushbuttons (Li = 0)	pushbuttons
E: 4..20 mA, HART with display (Li = 0)	Q: Foundation Fieldbus, with display
F: 4..20 mA, HART (Li = 0)	R: Foundation Fieldbus

d = Enclosure, aluminum or stainless steel housing with different cable entries, with or without display, any single letter or number.

f = calibration, units: Not safety relevant.

g = material of diaphragm, Not safety relevant.

h = process connection/material: Not safety relevant

i = fill media: Not safety relevant.

k = options: E (SIL, not verified by FM), F (NSF approval), M: (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options

l = additional options: E (SIL, not verified by FM), F (NSF approval), G(separated housing), M: (overvoltage protection), N (HistoROM), S (marine approval), or any single letter or number representing non safety relevant options.

Equipment Ratings:

Intrinsically Safe for use in Class I, II, III, Division 1, Groups A, B, C, D, E, F, & G; Class I, Zone 0, Group IIC; Dust-ignition proof for Class II and III, Division 1, Groups E, F & G indoor/outdoor hazardous (classified) locations, utilizing Type 4X and Type 6P enclosure and Nonincendive apparatus for use in Class I, Division 2, Groups A, B, C & D indoor/outdoor hazardous (classified) locations, utilizing Type 4X and Type 6P enclosure, in accordance with control drawing 960006696, 960006699 or 960007651. Temperature Class T4, Ta = 70°C for Division 1 operation and Temperature Class T6, Ta = 65°C for Division 2 operation.

FISCO and FNICO as indicated in product listing above in accordance with control drawing 960006703 or 960007738.

FM Approved for:

Endress + Hauser GmbH+Co KG.
Hauptstasse 1D-79689 Maulburg,
Germany

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	2011
Class 3810	2005
Class 3611	2004
Class 3610	2010
ANSI/ISA-12.27.01	2003
ANSI/ISA 61010-1	2004
ANSI/NEMA 250	2003
ANSI/ISA 60079-0	2009
ANSI/ISA 60079-11	2011

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Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3020864	August 12, 2004		
3021739	December 17, 2004		
050502	June 21, 2005		
060227	May 2, 2006		
070823	November 27, 2007		
3033355	July 7, 2008		
3047942	March 13, 2013		

FM Approvals LLC



J. E. Marquedant
Group Manager, Electrical

13 March 2013
Date