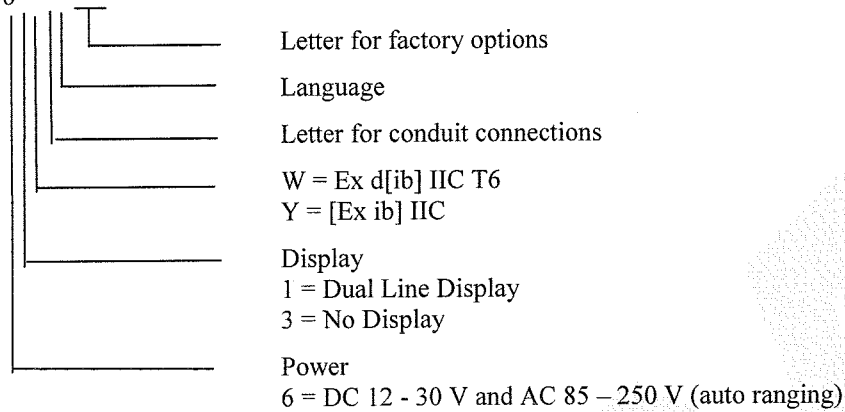


Transmitter type 9739MVD6*****

Instead of the *** in the complete denomination letters and numerals will be inserted which characterize the following variations:


Type 9739MVD6*****



The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 60079-0:2009 General requirements
EN 60079-1:2007 Flameproof enclosure 'd'
EN 60079-11:2007 Intrinsic safety 'i'

The marking of the equipment shall include the following:

 **II 2G Ex d [ib] IIC T6 Gb** resp.
II (2) G [Ex ib Gb] IIC

Parameters

1 Transmitter Type RTF9739*****

1.1 Mains circuit

Type RFT9739**4E****

Nominal voltage

max. voltage

	AC	85 / 250	V
Um	AC	250	V

Typ RFT9739**5E****

Nominal voltage

max. voltage

	DC	12 - 30	V
Um	AC	250	V

Type RFT9739R1EY*** (terminals L and N)

Nominal voltage

max. voltage

	AC	110 / 115	V
Um	AC	250	V

Type RFT9739R2EY*** (terminals L1 and L2)

Nominal voltage

max. voltage

	AC	220 / 230	V
Um	AC	250	V

Type RFT9739R3EY*** (connections CN2 d32 – z32)

Nominal voltage		DC	12 - 30	V
max. voltage	Um	AC	250	V

1.2 Intrinsically safe power and signal circuits

1.2.1 Drive circuit (pins 1 & 2, wires brown – red)

Voltage	Uo	DC	11.4	V
Current	Io		1.14	A
Rated value of the fuse			250	mA
Power	Po		1.2	W
Internal resistance	Ri		10	Ω

for group IIC

max. external capacitance	Co		1.7	μF
max. external inductance	Lo		27.4	μH
max. external inductance/resistance ratio	Lo/Ro		10.9	μH/Ω

for group IIB

max. external capacitance	Co		11.7	μF
max. external inductance	Lo		109	μH
max. external inductance/resistance ratio	Lo/Ro		43.7	μH/Ω

The maximum external inductance L (sensor coil) can be calculated with the following term:

$$L = 2 \times E \times \left(\frac{Ri + Ro}{1.5 \times Uo} \right)^2$$

whereby E = 40 μJ for group IIC and E = 160 μJ for group IIB will be inserted.

1.2.2 Pick-off circuits (pins 6 & 8 wires blue-gray, pins 5 & 9 wires green-white)

Voltage	Uo	DC	7.6	V
Current	Io		4.75	mA
Power	Po		18	mW

for group IIC

max. external capacitance	Co		10.4	μF
max. external inductance	Lo		1.5	H

for group IIB

max. external capacitance	Co		160	μF
max. external inductance	Lo		6.3	H

1.2.3 Temperature circuit (pins 3 & 4 & 7 wires orange, yellow, violet)

Voltage	Uo	DC	14	V
Current	Io		7	mA
Power	Po		25	mW

for group IIC

max. external capacitance	Co		730	nF
max. external inductance	Lo		725	mH

for group IIB

max. external capacitance	Co		4.6	μF
max. external inductance	Lo		2.9	H

2 Transmitter type 9739MVD6***** with 9739MVD Module

2.1 Non intrinsically safe circuits

2.1.1 Power supply (conn. J1)

Nominal voltage		AC	85 – 250	V
		DC	12 – 100	V
max. voltage	Um	AC	250	V

2.1.2 HART, mAo, mA_i, RS485 and FO circuits

max. voltage	Um	DC	250	V
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2.2 Output (sensor) circuits

2.2.1 Drive circuit (J1 pins 1 & 2, wires brown-red)

Voltage	U _o	DC	10.5	V
Current	I _o		1.038	A
Power	P _o		2.11	W
Internal resistance	R _i		10.12	Ω

for group IIC

max. external capacitance	Co		2.41	μF
max. external inductance	Lo		33	μH
max. external inductance/resistance ratio	Lo/Ro		13.05	μH/Ω

for group IIB

max. external capacitance	Co		16.8	μF
max. external inductance	Lo		131	μH
max. external inductance/resistance ratio	Lo/Ro		52.6	μH/Ω

2.2.2 Pick-Off circuits (J1 pins 6 & 8 wires blue-gray, J1 pins 5 & 9 wires green-white)

Voltage	U _o	DC	17.3	V
Current	I _o		18.05	mA
Power	P _o		30	mW

for group IIC

max. external capacitance	Co		353	nF
max. external inductance	Lo		109	mH

for group IIB

max. external capacitance	Co		2.06	μF
max. external inductance	Lo		436	mH

2.2.3 Temperature sensor circuit (J1 pins 3 & 4 & 7 wires orange, yellow, violet)

Voltage	U _o	DC	17.3	V
Current	I _o		21	mA
Power	P _o		91	mW

for group IIC

max. external capacitance	Co		353	nF
max. external inductance	Lo		80.4	mH

for group IIB

max. external capacitance	Co		2.06	μF
max. external inductance	Lo		0.322	H

4.3 Ambient temperature range

Ta

for type RFT9739R*E****

-20 °C up to +55 °C

for type RFT9739(D or E)*E****

-30 °C up to +45 °C

or

for type RFT9739E*EW*** (routine test required)

-40 °C up to +45 °C

for type 9739MVD6*****

Ta

-30 °C up to +55 °C

or

for type 9739MVD6*W ***** (routine test required)

-40 °C up to +55 °C

Special conditions for safe use

1 For transmitters type RFT9739**E**** is valid:

Along the intrinsically safe circuits a potential equalization has to be achieved.

2 For transmitters type RFT9739**EW*** and type 9739MVD63W***** is valid:

For the application of the apparatus in an ambient temperature of less than -20 °C suitable cable and cable entries or conduit entries certified for this condition shall be used. Entry holes which are not needed shall be closed by stopping plugs separately certified for this purpose.

Test and assessment report

BVS PP 02.2024 EG as of 08.06.2010

DEKRA EXAM GmbH

Bochum, dated 08 June 2010

Signed: Hans Christian Simanski

Signed: Dr. Franz Eickhoff

Certification body

Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 08.06.2010
BVS-Schu/Her A 20090921

DEKRA EXAM GmbH



Certification body



Special services unit