

NEPSI Hazardous Area Approvals

Fisher™ FIELDVUE™ DVC6200 Series Digital Valve Controllers

This supplement provides NEPSI Hazardous Area Approval information for DVC6200 Series digital valve controllers.

NEPSI—National Supervision and Inspection Centre for Explosion Protection and Safety of Instrumentation. NEPSI approval is accepted in China.

These special instructions for “safe use” are in addition to, and may override, the standard installation procedures. Certain nameplates may carry more than one approval, and each approval may have unique installation/wiring requirements and/or conditions of “safe use”. Special instructions are listed by approval.

Refer to the DVC6200 Series quick start guide or the appropriate product instruction manual for all other information pertaining to the DVC6200 Series digital valve controller. If additional information regarding these products is required, contact your [Emerson sales office](#) or Local Business Partner, or go to www.Fisher.com.

- DVC6200 Series Digital Valve Controller Quick Start Guide ([D103556X012](#))
- DVC6200 HW2 Digital Valve Controller Instruction Manual ([D103605X012](#))
- DVC6200 HW1 Digital Valve Controller Instruction Manual (Supported) ([D103409X012](#))
- DVC6200 SIS Digital Valve Controller Instruction Manual ([D103557X012](#))
- DVC6200f Digital Valve Controller Instruction Manual ([D103412X012](#))
- DVC6200p Digital Valve Controller Instruction Manual ([D103563X012](#))

Note

This information supplements the nameplate markings affixed to the product.

Always refer to the nameplate itself to identify the appropriate certification.

WARNING

Failure to follow these conditions of “safe use” could result in personal injury or property damage from fire or explosion, and area re-classification.

Intrinsically Safe

Certificate Number GYJ15.1044X

Ex ia IIC T4/T5/T6 Ga

Special Conditions for Safe Use

The suffix “X” placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

1. For EPL Ga applications, at the metallic parts of the products made of light metal there is a danger of ignition by impact or friction.
2. Avoid of the electrostatic charge built on the surface of non-metallic material of the product.

Conditions for Safe Use

1. The external earth connection facility shall be connected reliably.
2. This product should be used in explosive gas atmospheres together with approved associated apparatus, follow the instruction manual of this product and associated apparatus when connecting the wiring. Connect the wiring terminals correctly.
3. The intrinsically safe parameters are shown as follows:

3a. DVC6200, DVC6200S

Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (mH)
30	226	1.4	5	0.55

3b. DVC6200 (HW2), DVC6200S (HW2)

	Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (mH)
Loop Terminals	30	130	1	15	0.55
Output Terminals	28	100	1	15	0.5

3c. DVC6200F, DVC6200FS, DVC6200P, DVC6200PS

Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (mH)
24	380	1.4	5	0
17.5	380	5.32	5	0

3d. DVC6205 (HW2)

	Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (mH)
Loop Terminals	30	130	1	15	0.55
Output Terminals	28	100	1	15	0.5

Output parameters of the remote sensor: Uo = 30V Io = 21.2mA Po = 160mW Co = 55nF Lo = 78mH

3e. DVC6205F, DVC6205P

	Ui = 24V	Ii = 380mA	Pi = 1.4W	Ci = 5nF	Li = 0mH
	Uo = 24V	Io = 44mA	Po = 0.33W	Co = 121nF	Lo = 30mH
or	Ui = 17.5V	Ii = 380mA	Pi = 5.32W	Ci = 5nF	Li = 0mH
	Uo = 17.5V	Io = 44mA	Po = 0.33W	Co = 121nF	Lo = 30mH

3f. DVC6215

Ui (V)	Ii (mA)	Pi (W)	Ci (nF)	Li (mH)
30	226	1.4	50	0.55

4. Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.
5. After installation, degree of protection of enclosure is at least IP66 according to GB4208-2008.
6. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.
7. For installation, use and maintenance of this product, the end user shall observe the instruction manual and the following standards:
 - GB50257-1996 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”.
 - GB3836.13-2013 “Explosive atmospheres- Part 13: Equipment repair, overhaul and reclamation”.
 - GB3836.15-2000 “Electrical apparatus for explosive gas atmospheres- Part 15: Electrical installations in hazardous area (other than mines)”.
 - GB3836.16-2006 “Electrical apparatus for explosive gas atmospheres- Part 16: Inspection and maintenance of electrical installation (other than mines)”.
 - GB3836.18-2010 “Explosive atmospheres-Part 18: Intrinsically safe system”.

Flameproof

Certificate Number GYJ15.1043X

Ex d IIC T4/T5/T6 Gb

Special Conditions for Safe Use

The suffix “X” placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

1. For information on the dimensions of the flameproof joints contact the manufacturer.
2. Avoid of the electrostatic charge built on the surface of non-metallic material of the product.

Conditions for Safe Use

1. The external earth connection facility should be connected reliably.
2. Electrical data: 30V max, 20mA.
3. Suitable certified cable glands or blanking plugs for unused holes approved by ExTL according to GB3836.1-2010 and GB3836.2-2010 with Ex marking “Ex d IIC Gb” shall be used and correctly installed; after installation, degree of protection of enclosure is at least IP66 according to GB4208-2008.
4. Any maintenance shall be performed only when the warning of “Do not open when energized” is observed.
5. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.
6. For installation, use and maintenance of this product, the end user should observe the instruction manual and the following standards:
 - GB50257-1996 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”.
 - GB3836.13-2013 “Explosive atmospheres- Part 13: Equipment repair, overhaul and reclamation”.
 - GB3836.15-2000 “Electrical apparatus for explosive gas atmospheres- Part 15: Electrical installations in hazardous area (other than mines)”.
 - GB3836.16-2006 “Electrical apparatus for explosive gas atmospheres- Part 16: Inspection and maintenance of electrical installation (other than mines)”.

Type n

Certificate Number GYJ15.1045X

Ex nC IIC T5/T6 Gc (except DVC6215)

Ex nA IIX T4/T5/T6 Gc (only DVC6215)

Special Conditions for Safe Use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

Avoid of the electrostatic charge built on the surface of non-metallic material of the product.

Conditions for Safe Use

1. The external earth connection facility should be connected reliably.
2. This product can only be used in the explosive gas area located as zone 2 or safe area.
3. Electrical data: 30V max, 20mA.
4. Suitable certified cable glands or blanking plugs for unused holes approved by ExTL according to GB3836 shall be used and correctly installed; after installation, degree of protection of enclosure is at least IP66 according to GB4208-2008.
5. Any maintenance shall be performed only when the warning of "Do not open when energized" is observed.
6. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.
7. For installation, use and maintenance of this product, the end user should observe the instruction manual and the following standards:
GB50257-1996 "Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering".
GB3836.13-2013 "Explosive atmospheres- Part 13: Equipment repair, overhaul and reclamation".
GB3836.15-2000 "Electrical apparatus for explosive gas atmospheres- Part 15: Electrical installations in hazardous area (other than mines)".
GB3836.16-2006 "Electrical apparatus for explosive gas atmospheres- Part 16: Inspection and maintenance of electrical installation (other than mines)".

Dust by Enclosure

Certificate Number GYJ17.1479X

ExtD A21 IP66 T88°C

Type approved in this certificate is shown as the following:

DVC6200, DVC6200S, DVC6200F, DVC6200FS, DVC6200P, DVC6200PS.

Special Conditions for Safe Use

The suffix "X" placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

Avoid of the electrostatic charge built on the surface of non-metallic material of the product. Do not rub or clean with solvents.

Conditions for Safe Use

1. The external earth connection facility should be connected reliably.
2. Ambient temperature range: -40°C/-52C ~ +80°C.
3. Electrical data: 30V max, 20mA.

4. Suitable certified cable glands or blanking plugs for unused holes approved by ExTL according to GB12476.1-2013 and GB12476.5-2013 with Ex marking “Ex tD A21 IP66” shall be used and correctly installed. After installation, degree of protection of enclosure should be at least IP66 according to GB4208-2008. The cable glands, blanking plugs and connecting cable to be used shall be suitable for the product working conditions.
5. Any maintenance shall be performed only when the warning of “Do not open when energized” is observed.
6. Clean the surface of this product termly when using in combustibile dust atmosphere.
7. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of this product. Any change may impair safety.
8. For installation, use and maintenance of this product, the end user should observe the instruction manual and the following standards:
 GB50257-2014 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”.
 GB15577-2007 “Safety regulations for dust explosion prevention and protection”. (Only if installed in dust hazardous areas)
 GB12476.2-2010 “Electrical apparatus for use in the presence of combustibile dust- Part 2: Selection and installation”. (Only if installed in dust hazardous areas)

Dust by IS

Certificate Number GYJ17.1480X

Ex iaD 20 T*

The relationship of model type, Max. surface temperature and ambient temperature is shown as following:

Model Type	Max. Surface Temperature	Ambient Temperature
DVC6200, DVC6200S HW1	T89	-40°C/-52°C~+80°C
	T85	-40°C/-52°C~+76°C
DVC6200F, DVC6200FS DVC6200P,DVC6200PS	T103	-40°C/-52°C~+80°C
	T100	-40°C/-52°C~+77°C
	T85	-40°C/-52°C~+62°C
DVC6200, DVC6200S HW2-with I/O Package	T104	-40°C/-52°C~+80°C
	T85	-40°C/-52°C~+61°C
DVC6200, DVC6200S HW2-without I/O Package	T91	-40°C/-52°C~+80°C
	T85	-40°C/-52°C~+74°C

Special Conditions for Safe Use

The suffix “X” placed after the certificate number indicates that this product is subject to special conditions for safe use, that is:

Avoid of the electrostatic charge built on the surface of non-metallic material of the product.

Conditions for Safe Use

1. The external earth connection facility should be connected reliably.
2. This product should be used in combustibile dust atmospheres together with approved associated apparatus, follow the instruction manual of this product and associated apparatus when connecting the wiring. Connect the wiring terminals correctly.
3. The intrinsically safe parameters are shown as follows:

DVC6200 (HW1), DVC6200S (HW1)

Option 1

Terminals	Electrical Data
Loop Terminals	$U_i = 30V$, $I_i = 226mA$, $P_i = 1.4W$, $C_i = 5nF$, $L_i = 0.55mH$
AUX Terminals	/

Option 2

Terminals	Electrical Data
Loop Terminals	$U_i = 30V$, $I_i = 101 mA$, $P_i = 757mW$, $C_i = 5nF$, $L_i = 0.55mH$
AUX Terminals	$U_o = 30V$, $I_o = 101 mA$, $P_o = 757mW$, $C_o = 64nF$, $L_o = 5.34mH$

Option 3

Terminals	Electrical Data
Loop Terminals	$U_i = 24.3V$, $I_i = 169mA$, $P_i = 1.026W$, $C_i = 5nF$, $L_i = 0.55mH$
AUX Terminals	$U_o = 24.3V$, $I_o = 169mA$, $P_o = 1.026W$, $C_o = 118nF$, $L_o = 0.30mH$

Option 4

Terminals	Electrical Data
Loop Terminals	$U_i = 30V$, $I_i = 226mA$, $P_i = 1.4W$, $C_i = 5nF$, $L_i = 0.55mH$
AUX Terminals	$U_o = 30V$, $I_o = 226mA$, $P_o = 1.4W$, $C_o = 558nF$, $L_o = 3.76mH$

DVC6200 (HW2), DVC6200S (HW2)

Option 1

Terminals	Electrical Data
Loop Terminals	$U_i = 30V$, $I_i = 130mA$, $P_i = 1.0W$, $C_i = 15nF$, $L_i = 0.15mH$
AUX Terminals	/
Output Terminals	$U_i = 28V$, $I_i = 100mA$, $P_i = 1.0W$, $C_i = 15nF$, $L_i = 0.2mH$

Option 2

Terminals	Electrical Data
Loop Terminals	$U_i = 30V$, $I_i = 101 mA$, $P_i = 757mW$, $C_i = 15nF$, $L_i = 0.30mH$
AUX Terminals	$U_o = 30V$, $I_o = 101 mA$, $P_o = 757mW$, $C_o = 52nF$, $L_o = 5.84mH$
Output Terminals	$U_i = 28V$, $I_i = 100mA$, $P_i = 1.0W$, $C_i = 15nF$, $L_i = 0.2mH$

Option 3

Terminals	Electrical Data
Loop Terminals	$U_i = 27.1V$, $I_i = 130mA$, $P_i = 880mW$, $C_i = 15nF$, $L_i = 0.30mH$
AUX Terminals	$U_o = 27.1V$, $I_o = 130mA$, $P_o = 880mW$, $C_o = 75nF$, $L_o = 2.73mH$
Output Terminals	$U_i = 28V$, $I_i = 100mA$, $P_i = 1.0W$, $C_i = 15nF$, $L_i = 0.2mH$

Option 4

Terminals	Electrical Data
Loop Terminals	$U_i = 30V$, $I_i = 130mA$, $P_i = 1.0W$, $C_i = 15nF$, $L_i = 0.30mH$
AUX Terminals	$U_o = 30V$, $I_o = 130mA$, $P_o = 1.0W$, $C_o = 546nF$, $L_o = 16.93mH$
Output Terminals	$U_i = 28V$, $I_i = 100mA$, $P_i = 1.0W$, $C_i = 15nF$, $L_i = 0.2mH$

DVC6200F, DVC6200FS, DVC6200P, DVC6200PS

Option 1

Terminals	Electrical Data
Loop Terminals	Normal, $U_i = 24V$, $I_i = 380mA$, $P_i = 1.4W$, $C_i = 5nF$, $L_i = 0mH$ FISCO, $U_i = 17.5V$, $I_i = 380mA$, $P_i = 5.32W$, $C_i = 5nF$, $L_i = 0mH$
AUX Terminals	/

4. Connecting cable between this product and associated apparatus should be insulated screen cable; connect the cable screen functionally to earth ground.
5. After installation, degree of protection of enclosure is at least IP66 according to GB4208-2008.
6. The user shall not change the configuration in order to maintain/ensure the explosion protection performance of the equipment. Any change may impair safety.
7. For installation, use and maintenance of this product, the end user shall observe the instruction manual and the following standards:

GB50257-2014 “Code for construction and acceptance of electric device for explosion atmospheres and fire hazard electrical equipment installation engineering”.

GB15577-2007 “Safety regulations for dust explosion prevention and protection”. (Only if installed in dust hazardous areas)

GB12476.2-2010 “Electrical apparatus for use in the presence of combustible dust- Part 2: Selection and installation”. (Only if installed in dust hazardous areas)

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