IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	IECEx BVS 14.0111X issue No.:0	Certificate history:
Status:	**Current**	
Date of Issue:	**2014-11-11**	Page 1 of 3

Applicant:
G.M. International S.R.L.
Via San Fiorano 70
20852 Villasanta (MB)
Italy

Electrical Apparatus: **Digital Output Driver type D5040* or D5040*-xxx / D5240* or D5240*-xxx**
Optional accessory:

Type of Protection: **Equipment protection by intrinsic safety "i", Equipment protection by type of protection "n"**

Marking: Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I

Approved for issue on behalf of the IECEx Certification Body: H.-Ch. Simanski

Position: Head of Certification Body

Signature:
(for printed version)

Date: 11.11.2014

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111X

Date of Issue: **2014-11-11** Issue No.: **0**

Manufacturer: **G.M. International S.R.L.**
Via San Fiorano 70
20852 Villasanta (MB)
Italy

Additional Manufacturing location (s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR14.0106/00

Quality Assessment Report:

NO/DNV/QAR07.0005/05

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111X

Date of Issue: **2014-11-11** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Type Code:

Digital Output Driver type D5040* or D5040*-xxx / D5240* or D5240*-xxx
In the full designation the "*" is replaced by letters marking details of construction as follows:

S = single channel	S-xxx = single channel	D5040* only
D = dual channel	D-xxx = dual channel	
T = triple channel	T-xxx = triple channel	D5240* only
Option 'xxx' = non Ex-relevant details of construction or function		

Description

Electronic components of the Digital Output Driver models are arranged on printed-circuit-boards (PCB) packaged in plastic enclosures, suitable for installation on T35 DIN Rails.
The Digital Output Drivers provide fully floating single, dual or triple channel intrinsically safe power supply for solenoid valves, visual or audible alarm devices located in hazardous areas driven by control-signals generated in the safe area.
Digital Output Driver type D5040* or D5040*-xxx providing single or dual channel configuration:
For each channel two basic outputs are selectable (output A or B) with different safety parameters.
The basic outputs of the same channel can be used 'exclusive-or' only.
In addition, the basic outputs A and/or B of the two channels of dual channel model D5040D or D5040D-xxx may be interconnected in parallel for single channel operation. See 'Ratings' for permissible combinations.
Digital Output Driver type D5240T or D5040T-xxx providing three channel configuration:
For each channel three basic outputs are selectable (output A or B or C) with different safety parameters.
The basic outputs of the same channel can be used 'exclusive-or' only.
In addition, the basic outputs A, B and/or C of the three channels may be interconnected in parallel for dual or single channel operation. See 'Ratings' for permissible combinations.
The intrinsically safe output circuits provide safe galvanic separation from the non-intrinsically safe circuits on the PCB up to a sum of peak values of rated voltages of 375 V.

Ratings

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Group I application:
The Digital Output Driver shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.
2. Group II application:
The Digital Output Driver shall be installed:
- outside the hazardous area, or
- shall be mounted inside an enclosure, which is in accordance with IEC 60079-15 in case of alternative installation in areas requiring EPL Gc equipment.

3. Group III application:
The Digital Output Driver shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.
4. General:
The installation of the Digital Output Driver shall be carried out in such a way that the clearances of un-insulated conductors of intrinsically safe circuits to grounded metal parts of the enclosure are at least 3 mm, and un-insulated conductors of non-intrinsically safe circuits of other apparatus are situated at least 50 mm from terminals for external intrinsically safe circuits, or are separated from them by an insulating barrier according to clause 6.2.1 of IEC 60079-11:2011.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111
Annex

Ratings

1 Non intrinsically safe power supply circuit

Digital Output Driver type	Voltage		Power
	U_n	U_m	P_n
	DC [V]	AC [V]	[W]
D5040S, D5040S-xxx	24	253	≤ 0.75
D5040D, D5040D-xxx	24	253	≤ 2 x 0.75
D5240T, D5240T-xxx	24	253	≤ 3.3

2 Intrinsically safe output circuits

2.1 Digital Output Driver type D5040S, D5040S-xxx, D5040D, D5040D-xxx

General single channel parameters	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A: Terminals: 7-8 or 10-11 U_o = DC 25.2 V I_o = 146 mA P_o = 916 mW Characteristic: linear	IIC	0.107	1.67	38.8
	IIB	0.82	6.71	155.3
	IIA	2.9	13.42	310.7
	I	4.8	22.01	509.8
	IIIC	0.82	6.71	155.3
Output B: Terminals: 7-9 or 10-12 U_o = DC 25.2 V I_o = 108 mA P_o = 676 mW Characteristic: linear	IIC	0.107	3.07	52.6
	IIB	0.82	12.3	210.4
	IIA	2.9	24.61	420.0
	I	4.8	40.37	690.3
	IIIC	0.82	12.3	210.4

Remarks:

parameters of output A and output B of the same channel interconnected in parallel are identical with parameters of output A

D5040S, D5040S-xxx:
Terminal 7: common '+' of both outputs
Terminals 8, 9: '-' output A, B

D5040D, D5040D-xxx
Terminal 7: common '+' of both outputs channel 1
Terminals 8, 9: '-' output A, B channel 1
Terminal 10: common '+' of both outputs channel 2
Terminals 11, 12: '-' output A, B channel 2

2.2 Digital Output Driver type D5040D, D5040D-xxx

General parameters, outputs of both channels in parallel	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+A: Terminals: 7//10 - 8//11 U_o = DC 25.2 V I_o = 292 mA P_o = 1831 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.82	1.67	77.6
	IIA	2.9	3.35	155.3
	I	4.8	5.50	254.9
	IIIC	0.82	1.67	77.6
Output B+B: Terminals: 7//10 - 9//12 U_o = DC 25.2 V I_o = 216 mA P_o = 1352 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.82	3.07	105.2
	IIA	2.9	6.15	210.4
	I	4.8	10.09	345.1
	IIIC	0.82	3.07	105.2
Output A+B: [1] Terminals: 7//10-8//12 or 7//10-9//11 U_o = DC 25.2 V I_o = 254 mA P_o = 1592 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.82	2.22	89.3
	IIA	2.9	4.44	178.7
	I	4.8	7.28	293.2
	IIIC	0.82	2.22	89.3

Remarks:

[1]) parameters of output A of channel 1 and output B of channel 2 interconnected in parallel or vice versa

// = terminals connected in parallel

N / A = not applicable

2.3 Digital Output Driver type D5240T or D5240T-xxx

2.3.1 Application mode: three single channels

General single channel parameters	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A: Terminals: 13-14 or 17-18 or 21-22 U_o = DC 25.2 V I_o = 146 mA P_o = 916 mW Characteristic: linear	IIC	0.096	1.67	38.8
	IIB	0.809	6.71	155.3
	IIA	2.889	13.42	310.7
	I	4.789	22.01	509.8
	IIIC	0.809	6.71	155.3
Output B: Terminals: 13-15 or 17-19 or 21-23 U_o = DC 25.2 V I_o = 108 mA P_o = 676 mW Characteristic: linear	IIC	0.096	3.07	52.6
	IIB	0.809	12.3	210.4
	IIA	2.889	24.61	420.0
	I	4.789	40.37	690.3
	IIIC	0.809	12.3	210.4
Output C: Terminals: 13-16 or 17-20 or 21-24 U_o = DC 25.2 V I_o = 93 mA P_o = 580 mW Characteristic: linear	IIC	0.096	4.18	61.3
	IIB	0.809	16.72	245.3
	IIA	2.889	33.45	490.6
	I	4.789	54.88	804.9
	IIIC	0.809	16.72	245.3

Remarks:

Parameters of output A, B and/or C of the same channel interconnected in parallel are identical with parameters of output A

Terminals 13, 17, 21: common '+' of all channels and outputs
Terminals 14, 15, 16: '-' output A, B, C channel 1
Terminals 18, 19, 20: '-' output A, B, C channel 2
Terminals 22, 23, 24: '-' output A, B, C channel 3

2.3.2 Application of two channels in parallel (third channel not used or used as single channel)

General parameters, outputs of two of the three channels in parallel	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+C: [1] Terminals: 13//17-14//20 or 13//21-14//24 or 17//13-18//16 or 17//21-18//24 or 21//13-22//16 or 21//17-22//20 U_o = DC 25.2 V I_o = 238 mA P_o = 1486 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.798	2.51	95.1
	IIA	2.878	5.03	190.2
	I	4.778	8.25	312.1
	IIIC	0.798	2.51	95.1
Output B+B: Terminals: 13//17-15//19 or 13//21-15//23 or 17//21-19//23 U_o = DC 25.2 V I_o = 216 mA P_o = 1352 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.798	3.07	105.2
	IIA	2.878	6.15	210.4
	I	4.778	10.09	345.1
	IIIC	0.798	3.07	105.2
Output C+C: Terminals: 13//17-16//20 or 13//21-16//24 or 17//21-20//24 U_o = DC 25.2 V I_o = 185 mA P_o = 1160 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.798	4.18	122.6
	IIA	2.878	8.36	245.3
	I	4.778	13.72	402.4
	IIIC	0.798	4.18	122.6

Remarks:

[1]) parameters of output A of channel 1 or 2 or 3 and output C of one of the other two channels

// = terminals connected in parallel

N / A = not applicable

2.3.3 Application of three channels in parallel (3 x output A or B or C in parallel)

General parameters	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+A+A: Terminals: 13//17//21-14//18//22 U_o = DC 25.2 V I_o = 437 mA P_o = 2138 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	N / A	N / A	N / A
	IIA	2.867	1.49	103.5
	I	4.767	2.44	169.9
	IIIC	N / A	N / A	N / A
Output B+B+B: Terminals: 13//17//21-15//19//23 U_o = DC 25.2 V I_o = 323 mA P_o = 2028 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.787	1.36	70.1
	IIA	2.867	2.73	140.2
	I	4.767	4.48	230.1
	IIIC	0.787	1.36	70.1
Output C+C+C: Terminals Output: 13//17//21-16//20//24 U_o = DC 25.2 V I_o = 277 mA P_o = 1740 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.787	1.85	81.7
	IIA	2.867	3.71	163.5
	I	4.767	6.09	268.3
	IIIC	0.787	1.85	81.7
Remarks: // = terminals connected in parallel N / A = not applicable				

2.3.4 Application of three channels in parallel (3 x output in parallel A or B or C mixed)

General parameters, various outputs of the three channels in parallel	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+B+B: Terminals: 13//17//21-14//19//23 or 17//13//21-18//15//23 or 21//13//17-22//15//19 U_o = DC 25.2 V I_o = 361 mA P_o = 2138 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	N / A	N / A	N / A
	IIA	2.867	2.18	125.4
	I	4.767	3.58	205.8
	IIIC	0.787	1.09	62.7
Output A+A+C: Terminals: 13//17//21-14//18//24 or 13//21//17-14//22//20 or 17//21//13-18//22//16 U_o = DC 25.2 V I_o = 384 mA P_o = 2138 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	N / A	N / A	N / A
	IIA	2.867	1.93	118
	I	4.767	3.17	193.6
	IIIC	0.787	0.96	59
Remarks: // = terminals connected in parallel N / A = not applicable				

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres

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Certificate No.:	IECEx BVS 14.0111X issue No.:1	Certificate history: Issue No. 1 (2016-2-4) Issue No. 0 (2014-11-11)
Status:	**Current**	
Date of Issue:	**2016-02-04**	Page 1 of 4

Applicant: **G.M. International S.R.L.**
Via Mameli 53/55
20852 Villasanta (MB)
Italy

Electrical Apparatus: **Digital Output Driver type D5040* or D5040*-xxx / D5240T or D5240T-xxx**
Optional accessory:

Type of Protection: **Equipment protection by intrinsic safety "i", Equipment protection by type of protection "n"**

Marking: Ex nA [ia Ga] IIC T4 Gc, [Ex ia Da] IIIC, [Ex ia Ma] I

Approved for issue on behalf of the IECEx Certification Body: Dr. F. Eickhoff

Position: Deputy Head of Certification Body

Signature:
(for printed version)

Date: 2016-02-04

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2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the Official IECEx Website.

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111X

Date of Issue: **2016-02-04** Issue No.: **1**

Manufacturer: **G.M. International S.R.L.**
Via Mameli 53/55
20852 Villasanta (MB)
Italy

Additional Manufacturing location (s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:
The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:
DE/BVS/ExTR14.0106/01

Quality Assessment Report:

NO/DNV/QAR07.0005/06

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111X

Date of Issue: **2016-02-04** Issue No.: **1**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

Type Code:
Digital Output Driver type D5040* or D5040*-xxx / D5240* or D5240*-xxx
In the full designation the "*" is replaced by letters marking details of construction as follows:

S = single channel	S-xxx = single channel	D5040* only
D = dual channel	D-xxx = dual channel	
T = triple channel	T-xxx = triple channel	D5240* only
Option 'xxx' = non Ex-relevant details of construction or function		

Description
Electronic components of the Digital Output Driver models are arranged on printed-circuit-boards (PCB) packaged in plastic enclosures, suitable for installation on T35 DIN Rails.
The Digital Output Drivers provide fully floating single, dual or triple channel intrinsically safe power supply for solenoid valves, visual or audible alarm devices located in hazardous areas driven by control-signals generated in the safe area.
Digital Output Driver type D5040* or D5040*-xxx providing single or dual channel configuration:
For each channel two basic outputs are selectable (output A or B) with different safety parameters.
The basic outputs of the same channel can be used 'exclusive-or' only.
In addition, the basic outputs A and/or B of the two channels of dual channel model D5040D or D5040D-xxx may be interconnected in parallel for single channel operation. See 'Ratings' for permissible combinations.
Digital Output Driver type D5240T or D5040T-xxx providing three channel configuration:
For each channel three basic outputs are selectable (output A or B or C) with different safety parameters.
The basic outputs of the same channel can be used 'exclusive-or' only.
In addition, the basic outputs A, B and/or C of the three channels may be interconnected in parallel for dual or single channel operation. See 'Ratings' for permissible combinations.
The intrinsically safe output circuits provide safe galvanic separation from the non-intrinsically safe circuits on the PCB up to a sum of peak values of rated voltages of 375 V.
Listing of all components used referring to older standards: N / A

Ratings
See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

1. Group I application:
The Digital Output Driver shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.
2. Group II application:
The Digital Output Driver shall be installed:
- outside the hazardous area, or
- shall be mounted inside an enclosure, which is in accordance with IEC 60079-15 in case of alternative installation in areas requiring EPL Gc equipment.

3. Group III application:
The Digital Output Driver shall be installed outside the hazardous area or alternatively in an enclosure providing a suitable type of protection according to separate certification.
4. General:
The installation of the Digital Output Driver shall be carried out in such a way that the clearances of un-insulated conductors of intrinsically safe circuits to grounded metal parts of the enclosure are at least 3 mm, and un-insulated conductors of non-intrinsically safe circuits of other apparatus are situated at least 50 mm from terminals for external intrinsically safe circuits, or are separated from them by an insulating barrier according to clause 6.2.1 of IEC 60079-11:2011.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111X

Date of Issue: **2016-02-04** Issue No.: **1**

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Electrical parameters listed in Rating

1. Non intrinsically safe power supply circuit
P_n has been subjected to correction from power dissipation parameters to power consumption parameters.
This correction does not affect parameters of intrinsically safe circuits.

2. Intrinsically safe output circuits
P_o value in table 2.3.2 (Output A+C) has been subjected to slight correction.

3. Update of some descriptive documents

Annex: BVS_14_0111X_GMInternational_Annex_Issue1.pdf

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0111 Issue No. 1

Annex

Ratings

1 Non intrinsically safe power supply circuit

Digital Output Driver type	Voltage		Power
	U_n	U_m	P_n
	DC [V]	AC [V]	[W]
D5040S, D5040S-xxx	24	253	≤ 1.7
D5040D, D5040D-xxx	24	253	≤ 2 x 1.5
D5240T, D5240T-xxx	24	253	≤ 3.3

2 Intrinsically safe output circuits

2.1 Digital Output Driver type D5040S, D5040S-xxx, D5040D, D5040D-xxx

General single channel parameters	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A: Terminals: 7-8 or 10-11 U_o = DC 25.2 V I_o = 146 mA P_o = 916 mW Characteristic: linear	IIC	0.107	1.67	38.8
	IIB	0.82	6.71	155.3
	IIA	2.9	13.42	310.7
	I	4.8	22.01	509.8
	IIIC	0.82	6.71	155.3
Output B: Terminals: 7-9 or 10-12 U_o = DC 25.2 V I_o = 108 mA P_o = 676 mW Characteristic: linear	IIC	0.107	3.07	52.6
	IIB	0.82	12.3	210.4
	IIA	2.9	24.61	420.0
	I	4.8	40.37	690.3
	IIIC	0.82	12.3	210.4

Remarks:

parameters of output A and output B of the same channel interconnected in parallel are identical with parameters of output A

D5040S, D5040S-xxx:
Terminal 7: common '+' of both outputs
Terminals 8, 9: '-' output A, B

D5040D, D5040D-xxx
Terminal 7: common '+' of both outputs channel 1
Terminals 8, 9: '-' output A, B channel 1
Terminal 10: common '+' of both outputs channel 2
Terminals 11, 12: '-' output A, B channel 2

2.2 Digital Output Driver type D5040D, D5040D-xxx

General parameters, outputs of both channels in parallel	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+A: Terminals: 7//10 - 8//11 U_o = DC 25.2 V I_o = 292 mA P_o = 1831 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.82	1.67	77.6
	IIA	2.9	3.35	155.3
	I	4.8	5.50	254.9
	IIIC	0.82	1.67	77.6
Output B+B: Terminals: 7//10 - 9//12 U_o = DC 25.2 V I_o = 216 mA P_o = 1352 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.82	3.07	105.2
	IIA	2.9	6.15	210.4
	I	4.8	10.09	345.1
	IIIC	0.82	3.07	105.2
Output A+B: [1] Terminals: 7//10-8//12 or 7//10-9//11 U_o = DC 25.2 V I_o = 254 mA P_o = 1592 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.82	2.22	89.3
	IIA	2.9	4.44	178.7
	I	4.8	7.28	293.2
	IIIC	0.82	2.22	89.3

Remarks:

[1]) parameters of output A of channel 1 and output B of channel 2 interconnected in parallel or vice versa

// = terminals connected in parallel

N / A = not applicable

2.3 Digital Output Driver type D5240T or D5240T-xxx

2.3.1 Application mode: three single channels

General single channel parameters	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A: Terminals: 13-14 or 17-18 or 21-22 U_o = DC 25.2 V I_o = 146 mA P_o = 916 mW Characteristic: linear	IIC	0.096	1.67	38.8
	IIB	0.809	6.71	155.3
	IIA	2.889	13.42	310.7
	I	4.789	22.01	509.8
	IIIC	0.809	6.71	155.3
Output B: Terminals: 13-15 or 17-19 or 21-23 U_o = DC 25.2 V I_o = 108 mA P_o = 676 mW Characteristic: linear	IIC	0.096	3.07	52.6
	IIB	0.809	12.3	210.4
	IIA	2.889	24.61	420.0
	I	4.789	40.37	690.3
	IIIC	0.809	12.3	210.4
Output C: Terminals: 13-16 or 17-20 or 21-24 U_o = DC 25.2 V I_o = 93 mA P_o = 580 mW Characteristic: linear	IIC	0.096	4.18	61.3
	IIB	0.809	16.72	245.3
	IIA	2.889	33.45	490.6
	I	4.789	54.88	804.9
	IIIC	0.809	16.72	245.3

Remarks:

Parameters of output A, B and/or C of the same channel interconnected in parallel are identical with parameters of output A

Terminals 13, 17, 21: common '+' of all channels and outputs
Terminals 14, 15, 16: '-' output A, B, C channel 1
Terminals 18, 19, 20: '-' output A, B, C channel 2
Terminals 22, 23, 24: '-' output A, B, C channel 3

2.3.2 Application of two channels in parallel (third channel not used or used as single channel)

General parameters, outputs of two of the three channels in parallel	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+C: [1] Terminals: 13//17-14//20 or 13//21-14//24 or 17//13-18//16 or 17//21-18//24 or 21//13-22//16 or 21//17-22//20 U_o = DC 25.2 V I_o = 238 mA P_o = 1496 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.798	2.51	95.1
	IIA	2.878	5.03	190.2
	I	4.778	8.25	312.1
	IIIC	0.798	2.51	95.1
Output B+B: Terminals: 13//17-15//19 or 13//21-15//23 or 17//21-19//23 U_o = DC 25.2 V I_o = 216 mA P_o = 1352 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.798	3.07	105.2
	IIA	2.878	6.15	210.4
	I	4.778	10.09	345.1
	IIIC	0.798	3.07	105.2
Output C+C: Terminals: 13//17-16//20 or 13//21-16//24 or 17//21-20//24 U_o = DC 25.2 V I_o = 185 mA P_o = 1160 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.798	4.18	122.6
	IIA	2.878	8.36	245.3
	I	4.778	13.72	402.4
	IIIC	0.798	4.18	122.6

Remarks:

[1]) parameters of output A of channel 1 or 2 or 3 and output C of one of the other two channels

// = terminals connected in parallel

N / A = not applicable

2.3.3 Application of three channels in parallel (3 x output A or B or C in parallel)

General parameters	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+A+A: Terminals: 13//17//21-14//18//22 U_o = DC 25.2 V I_o = 437 mA P_o = 2138 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	N / A	N / A	N / A
	IIA	2.867	1.49	103.5
	I	4.767	2.44	169.9
	IIIC	N / A	N / A	N / A
Output B+B+B: Terminals: 13//17//21-15//19//23 U_o = DC 25.2 V I_o = 323 mA P_o = 2028 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.787	1.36	70.1
	IIA	2.867	2.73	140.2
	I	4.767	4.48	230.1
	IIIC	0.787	1.36	70.1
Output C+C+C: Terminals Output: 13//17//21-16//20//24 U_o = DC 25.2 V I_o = 277 mA P_o = 1740 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	0.787	1.85	81.7
	IIA	2.867	3.71	163.5
	I	4.767	6.09	268.3
	IIIC	0.787	1.85	81.7
Remarks: // = terminals connected in parallel N / A = not applicable				

2.3.4 Application of three channels in parallel (3 x output in parallel A or B or C mixed)

General parameters, various outputs of the three channels in parallel	Maximum parameters			
	Group	C_o [µF]	L_o [mH]	L_o/R_o (µH/Ω)
Output A+B+B: Terminals: 13//17//21-14//19//23 or 17//13//21-18//15//23 or 21//13//17-22//15//19 U_o = DC 25.2 V I_o = 361 mA P_o = 2138 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	N / A	N / A	N / A
	IIA	2.867	2.18	125.4
	I	4.767	3.58	205.8
	IIIC	0.787	1.09	62.7
Output A+A+C: Terminals: 13//17//21-14//18//24 or 13//21//17-14//22//20 or 17//21//13-18//22//16 U_o = DC 25.2 V I_o = 384 mA P_o = 2138 mW Characteristic: linear	IIC	N / A	N / A	N / A
	IIB	N / A	N / A	N / A
	IIA	2.867	1.93	118
	I	4.767	3.17	193.6
	IIIC	0.787	0.96	59
Remarks: // = terminals connected in parallel N / A = not applicable				