

DC/DC Converter
 AC/DC Inverters
 Delay-Lines
 Pulsetransformers
 Burst & Surge Filters
 Harmonic Filters
 Switching Power Supplies

Am Malfinger Steig 13
 86920 Denklingen/Obb.
 Germany
 Tel.: 08243-9693-0
 Fax: 08243-9693-33
 www.floeth-electronic.com



Stand: 12/07

Wide input range 1:4
 Case style: DIP24

COMMERCIAL DC/DC Converters PWM - regulated

2,2 Watt
 Series: CW4

Electrical specifications:

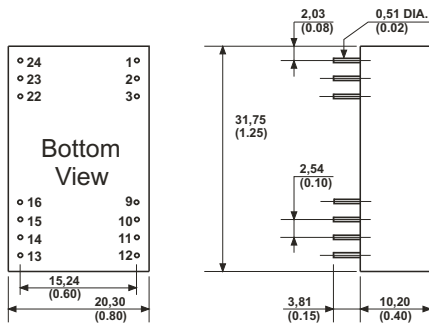
Input voltage: wide 1:4
 Output voltage accuracy: +/- 1% max.
 Line regulation: +/- 0,2%
 Load regulation: +/- 0,5% (20% to 100% Load)
 Efficiency: up to 84%
 Output Ripple & Noise: 50mVp-p max.
 Short circuit protection: continuous

Operating temperature: -40°C to +85°C
 Isolation voltage: min. 1000V DC
 Optional Part-No.: /H2 min. 2000V DC
 Part-No.: /H3 min. 3000V DC
 (/H2; /H3 only available with Pinning "A" and "C")
 Case material: black plastic
 Optional Part-No.: /M metal case
 Part-No.: /SMD SMD-package
 (/M; /SMD Isolation voltage max. 2kVDC)

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

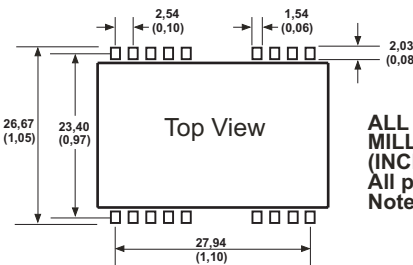
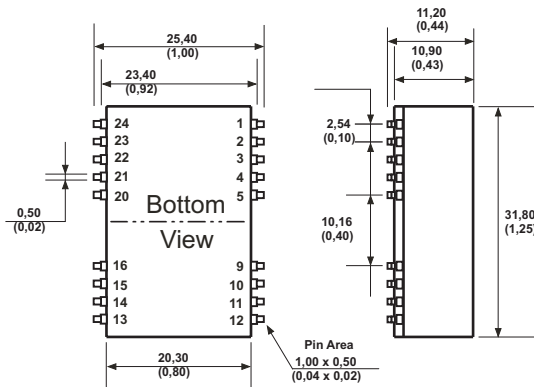
Part - No. Single Output	Input Voltage DC	Output Voltage DC	Output current	Part - No. Dual Output	Input Voltage DC	Output Voltage DC	Output current
CW4-xx03,3	24V (9-36V)	3,3V	600mA	CW4-xx03,3D	24V (9-36V)	±3,3V	±300mA
CW4-xx05		5V	440mA	CW4-xx05D		± 5V	±220mA
CW4-xx09		9V	244mA	CW4-xx09D		± 9V	±122mA
CW4-xx12	48V (18-72V)	12V	183mA	CW4-xx12D	48V (18-72V)	±12V	± 91mA
CW4-xx15		15V	146mA	CW4-xx15D		±15V	± 73mA

Any other output voltages available



PIN CONNECTION:						
PIN	SINGLE	DUAL	SINGLE A	DUAL A	SINGLE C	DUAL C
1	+Vin	+Vin			+Vin	+Vin
2	NP	-Vout	-Vin	-Vin	+Vin	+Vin
3	NP	COM	-Vin	-Vin		
9			NC	COM		
10	-Vout	COM			NC	COM
11	+Vout	+Vout	NC	-Vout	NC	COM
12	-Vin	-Vin			-Vout	NC
13	-Vin	-Vin			+Vout	-Vout
14	+Vout	+Vout	+Vout	+Vout		
15	-Vout	COM			NC	+Vout
16			-Vout	COM		
22	NP	COM	+Vin	+Vin		
23	NP	-Vout	+Vin	+Vin	-Vin	-Vin
24	+Vin	+Vin			-Vin	-Vin

SMD-Pinning Part-No.: /SMD



Add "A" to the end of Partnumber.
 For example CW4-2405A/H3 2,2Watt.

ALL DIMENSIONS IN MM (INCHES)
 MILLIMETERS +/- 0,25mm
 (INCHES +/- 0,01")
 All pins on a 2,54mm pitch
 Note: NP = No pin; NC = No connection;
 Dot denotes pin 1

Specification may be changed without notice
 please contact office for verification

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Stand: 12/07

Wide input range 1:4
 Case style: DIP24

COMMERCIAL DC/DC Converters PWM - regulated

3 Watt
 Series: CW4

Electrical specifications:

Input voltage: wide 1:4
 Output voltage accuracy: +/- 1% max.
 Line regulation: +/- 0,2%
 Load regulation: +/- 0,5% (20% to 100% Load)
 Efficiency: up to 84%
 Output Ripple & Noise: 50mVp-p max.
 Short circuit protection: continuous
 Operating temperature Uin = 5V: -40°C to +80°C
 Uin = 12V; 24V; 48V: -40°C to +85°C

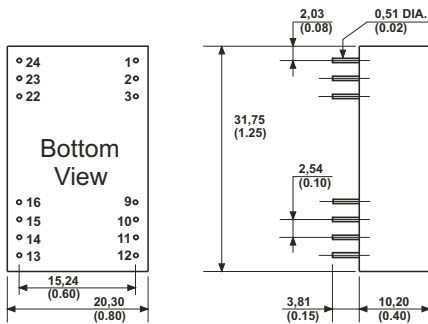
Isolation voltage: min. 1000V DC
 Optional Part-No.: /H2 min. 2000V DC
 Part-No.: /H3 min. 3000V DC
 Part-No.: /H4 min. 4000V DC
 Part-No.: /H5 min. 5000V DC
 Part-No.: /H6 min. 6000V DC
 (/H2 - /H6 only available with Pinning "A" and "C")

Case material: black plastic
 Optional Part-No.: /M metal case
 Part-No.: /SMD SMD-package
 (/M; /SMD Isolation voltage max. 2kVDC)

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

Part - No. Single Output	Input Voltage DC	Output Voltage DC	Output current	Part - No. Dual Output	Input Voltage DC	Output Voltage DC	Output current
CW4-xx03,3	24V (9-36V)	3,3V	900mA	CW4-xx05D CW4-xx09D CW4-xx12D CW4-xx15D	24V (9-36V)	± 5V	±300mA
CW4-xx05		5V	600mA			± 9V	±165mA
CW4-xx09		9V	330mA			±12V	±125mA
CW4-xx12	48V (18-72V)	12V	250mA		48V (18-72V)	±15V	±100mA
CW4-xx15		15V	200mA				

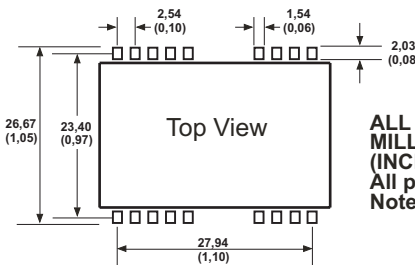
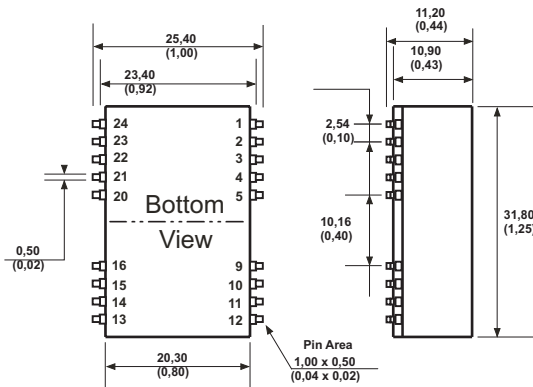
Any other output voltages available



PIN CONNECTION:						
PIN	SINGLE	DUAL	SINGLE A	DUAL A	SINGLE C	DUAL C
1	+Vin	+Vin			+Vin	+Vin
2	NP	-Vout	-Vin	-Vin	+Vin	+Vin
3	NP	COM	-Vin	-Vin		
9			NC	COM		
10	-Vout	COM			NC	COM
11	+Vout	+Vout	NC	-Vout	NC	COM
12	-Vin	-Vin			-Vout	NC
13	-Vin	-Vin			+Vout	-Vout
14	+Vout	+Vout	+Vout	+Vout		
15	-Vout	COM			NC	+Vout
16			-Vout	COM		
22	NP	COM	+Vin	+Vin		
23	NP	-Vout	+Vin	+Vin	-Vin	-Vin
24	+Vin	+Vin			-Vin	-Vin

Add "A" to the end of Partnumber.
 For example CW4-2405A/H3 3Watt.

SMD-Pinning Part-No.: /SMD



ALL DIMENSIONS IN MM (INCHES)
 MILLIMETERS +/- 0,25mm
 (INCHES +/- 0,01")
 All pins on a 2,54mm pitch
 Note: NP = No pin; NC = No connection;
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Stand: 12/07

Wide input range 1:4
 Case style: DIP24

COMMERCIAL DC/DC Converters PWM - regulated

5 Watt
 Series: CW4

Electrical specifications:

Input voltage: wide 1:4
 Output voltage accuracy: +/- 1% max.
 Line regulation: +/- 0,2%
 Load regulation: +/- 0,5% (20% to 100% Load)
 Efficiency: up to 84%
 Output Ripple & Noise: 50mVp-p max.
 Short circuit protection: continuous
 Operating temperature: -40°C to +75°C

Isolation voltage: min. 1000V DC
 Optional Part-No.: /H2 min. 2000V DC
 Part-No.: /H3 min. 3000V DC
 Part-No.: /H4 min. 4000V DC
 Part-No.: /H5 min. 5000V DC
 Part-No.: /H6 min. 6000V DC
 (/H2 - /H6 only available with Pinning "A" and "C")

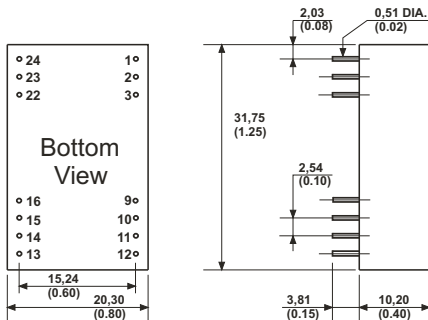
Case material: black plastic
 Optional Part-No.: /M metal case
 Part-No.: /SMD SMD-package
 (/M; /SMD Isolation voltage max. 2kVDC)

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

Part - No. Single Output	Input Voltage DC	Output Voltage DC	Output current	Part - No. Dual Output	Input Voltage DC	Output Voltage DC	Output current
CW4-xx03,3	24V (9-36V) **	3,3V **	1200mA	CW4-xx05D CW4-xx09D CW4-xx12D CW4-xx15D	24V (9-36V)	± 5V	±500mA
CW4-xx05		5V **	1000mA			± 9V	±278mA
CW4-xx09		9V	556mA			±12V	±210mA
CW4-xx12	48V (18-72V)	12V	420mA		48V (18-72V)	±15V	±170mA
CW4-xx15		15V	340mA				

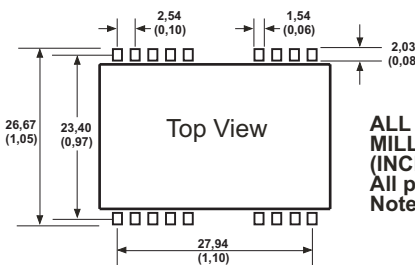
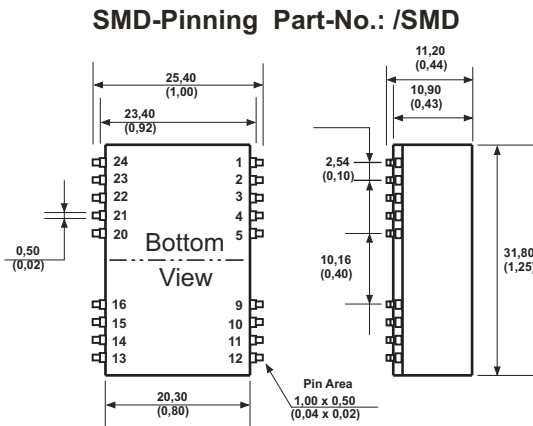
** Vin = 9Vin: 3,3Vout / 1100mA max., 5Vout / 900mA max.

Any other output voltages available



PIN CONNECTION:						
PIN	SINGLE	DUAL	SINGLE A	DUAL A	SINGLE C	DUAL C
1	+Vin	+Vin			+Vin	+Vin
2	NP	-Vout	-Vin	-Vin	+Vin	+Vin
3	NP	COM	-Vin	-Vin		
9			NC	COM		
10	-Vout	COM			NC	COM
11	+Vout	+Vout	NC	-Vout	NC	COM
12	-Vin	-Vin			-Vout	NC
13	-Vin	-Vin			+Vout	-Vout
14	+Vout	+Vout	+Vout	+Vout		
15	-Vout	COM			NC	+Vout
16			-Vout	COM		
22	NP	COM	+Vin	+Vin		
23	NP	-Vout	+Vin	+Vin	-Vin	-Vin
24	+Vin	+Vin			-Vin	-Vin

Add "A" to the end of Partnumber.
 For example CW4-2405A/H3 5Watt.



ALL DIMENSIONS IN MM (INCHES)
 MILLIMETERS +/- 0,25mm
 (INCHES +/- 0,01")
 All pins on a 2,54mm pitch
 Note: NP = No pin; NC = No connection;
 Dot denotes pin 1

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Stand: 11/08

Wide input range 1:4
 Case style: DIP24

COMMERCIAL DC/DC Converters PWM - regulated ISOLATED OUTPUT

3 Watt / 5 Watt
 Series: CW4

Electrical specifications:

Input voltage: wide 1:4
 Output voltage accuracy: max. +/- 2%
 Line regulation: max. +/- 0,4%
 Load regulation: max. +/- 0,6% (20% to 100% Load)
 Operating temperature Uin = 5V: -40°C to +80°C
 Uin = 12V; 24V; 48V: -40°C to +85°C

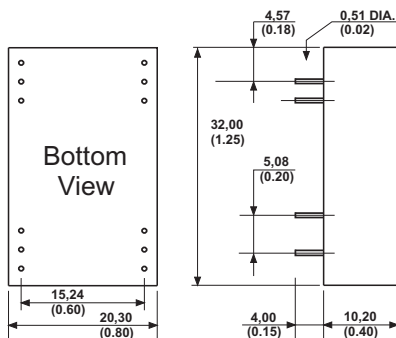
Efficiency: up to 82%
 Output Ripple & Noise: typ. 50mVp-p
 Short circuit protection: continuous / Auto Restart
 Isolation voltage I/O: min. 2000V DC
 (tested for 1 second min.) O/O: min. 500V DC
 Case material: black plastic
 Part-No. /M: metal case
 Part-No. /SMD: SMD-package

CAUTION: NO INPUT POLARITY CHANGE ALLOWED!

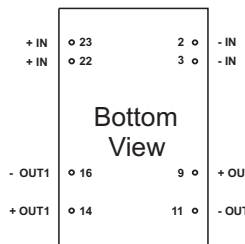
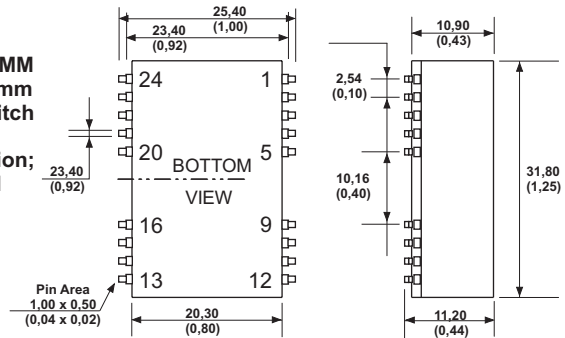
* OUT1: (Uout = 5V) min. Load 100mA to supply OUT2 well
 (Uout = 9V; 12V; 15V) min. Load 20% to supply OUT2 well

Part - No. Dual Output	Input Voltage DC	Output 3 Watt				Output 5 Watt			
		Output 1 *		Output 2		Output 1 *		Output 2	
		Output Voltage DC	Output Current	Output Voltage DC	Output Current	Output Voltage DC	Output Current	Output Voltage DC	Output Current
CW4-xx0505A CW4-xx0509A CW4-xx0512A CW4-xx0515A	24V (9-36V)	5V	300mA	5V	300mA	5V	500mA	5V	500mA
		9V	167mA	9V	167mA	9V	277mA	9V	277mA
		12V	125mA	12V	125mA	12V	208mA	12V	208mA
		15V	100mA	15V	100mA	15V	167mA	15V	167mA
CW4-xx0905A CW4-xx0909A CW4-xx0912A CW4-xx0915A	48V (18-72V)	9V	167mA	5V	300mA	9V	277mA	5V	500mA
		9V	167mA	9V	167mA	9V	277mA	9V	277mA
		12V	125mA	12V	125mA	12V	208mA	12V	208mA
		15V	100mA	15V	100mA	15V	167mA	15V	167mA
CW4-xx1205A CW4-xx1209A CW4-xx1212A CW4-xx1215A	For example: CW4-240512A 3W CW4-051512A/SMD 3W	12V	125mA	5V	300mA	12V	208mA	5V	500mA
		9V	167mA	9V	167mA	9V	277mA	9V	277mA
		12V	125mA	12V	125mA	12V	208mA	12V	208mA
		15V	100mA	15V	100mA	15V	167mA	15V	167mA
CW4-xx1505A CW4-xx1509A CW4-xx1512A CW4-xx1515A		15V	100mA	5V	300mA	15V	167mA	5V	500mA
		9V	167mA	9V	167mA	9V	277mA	9V	277mA
		12V	125mA	12V	125mA	12V	208mA	12V	208mA
		15V	100mA	15V	100mA	15V	167mA	15V	167mA

Any other output voltages available

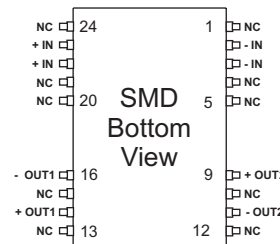


ALL DIMENSIONS IN MM
 MILLIMETERS +/- 0,25mm
 All pins on a 2,54mm pitch
 Note: NP = No pin;
 NC = No connection;
 Dot denotes pin 1



PIN CONNECTION:
 Dual Separate

Any other
 pin-connections
 on request



Part-No.: /SMD
 Example:
 CW4-241515A/SMD 3W

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