

Unregulated SIL DC/DC Converters

FK-Series 1 Watt, Single / Dual Output



- DC/DC unregulated converter modules
- Industry standard pinning
- 1s short circuit proof
- 3kVdc and 4kVdc isolation voltage
- UL 94V-0 package material

- DC/DC Wandler unreguliert
- Industriestandard pinning
- 1s kurzschlussfest
- 3kVdc und 4kVdc galvanische Trennung
- UL 94V-0 Gehäusematerial und Vergussmasse

- Convertisseur DC/DC non régulé
- Brochage standard industriel
- Résistant 1s au court-circuit
- Isolation galvanique 3kVdc et 4kVdc
- Matériaux de boîtier et masse de remplissage conformes UL 94V-0

Product range Typenübersicht Sommaire des types

PART NUMBER	PINNING	INPUT VOLTAGE		OUTPUT		EFFICIENCY
		Nominal	Range	Voltage	Current	Typical
FK(xx)-1V8SV*	SIL-7	1.8, 3.3, 5, 9, 12, 15, 24 VDC	±10%	1.8 VDC	555 mA	70%
FK(xx)-3V3SV*			±10%	3.3 VDC	303 mA	75%
FK(xx)-05SV*			±10%	5 VDC	200 mA	70-78%
FK(xx)-09SV*			±10%	9 VDC	111 mA	70-80%
FK(xx)-12SV*			±10%	12 VDC	84 mA	78-82%
FK(xx)-15SV*			±10%	15 VDC	66 mA	78-82%
FK(xx)-24SV*			±10%	24 VDC	42 mA	74-83%
Dual Output						
FK(xx)-1V8DV*	SIL-7	1.8, 3.3, 5, 9, 12, 15, 24 VDC	±10%	±1.8 VDC	±278 mA	70%
FK(xx)-3V3DV*			±10%	±3.3 VDC	±152 mA	70%
FK(xx)-05DV*			±10%	±5 VDC	±100 mA	70-78%
FK(xx)-09DV*			±10%	±9 VDC	±56 mA	75-80%
FK(xx)-12DV*			±10%	±12 VDC	±42 mA	78-84%
FK(xx)-15DV*			±10%	±15 VDC	±33 mA	80-84%
FK(xx)-24DV*			±10%	±24 VDC	±21 mA	80-84%

* Standard Version:
Option: U instead of V
Ordering Example:

V = 3'000Vdc I/O isolation
U = 4'000Vdc I/O isolation
Substitute (xx) for 1V8, 3V3, 05, 09, 12, 15 or 24

FK 05 - 3V3 S V

Product Series

Nominal Input Voltage

Nominal Output Voltage
(3V3 = 3.3V)

V = 3'000 Vdc isolation voltage

U = 4'000 Vdc isolation voltage

S = Single Output Voltage

D = Dual Output Voltage

Specifications

Spezifikationen

Spécifications

All values refer to an ambient temperature of 25°C and nominal rated values where nothing else is specified

INPUT SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
U_{in}	Input voltage	$T_A < T_{Amax}$	±10			% $U_{in nom}$
	Input filter		capacitor type			

OUTPUT SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
U_{acc}	Output voltage accuracy	of nominal output voltage			±5	% U_{out}
	Line regulation	$U_{in delta} = ((U_{in nom} - U_{in}) / U_{in nom}) \times 100$			±1.2x $U_{in delta}$	% U_{out}
	Load regulation see "Load Regulation", page 3	10% to 100% load, $U_{out} = 1.8, 3.3Vdc$			20	% U_{out}
		10% to 100% load, $U_{out} = 5Vdc$			15	
		10% to 100% load, $U_{out} = 9, 12, 15, 24V$			10	
$U_{r n}$	Output ripple & noise	Single output			100	mVpp
		Dual output			75	mVpp
	Output short circuit characteristic			$I_{out} > I_{nom}$		
	Output short circuit protection		1			sec

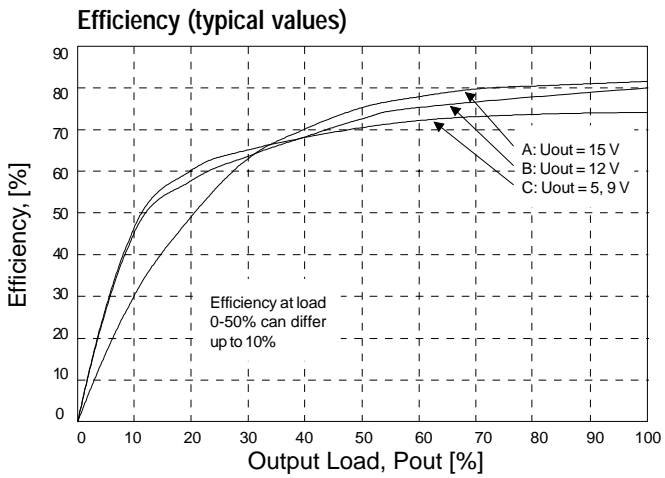
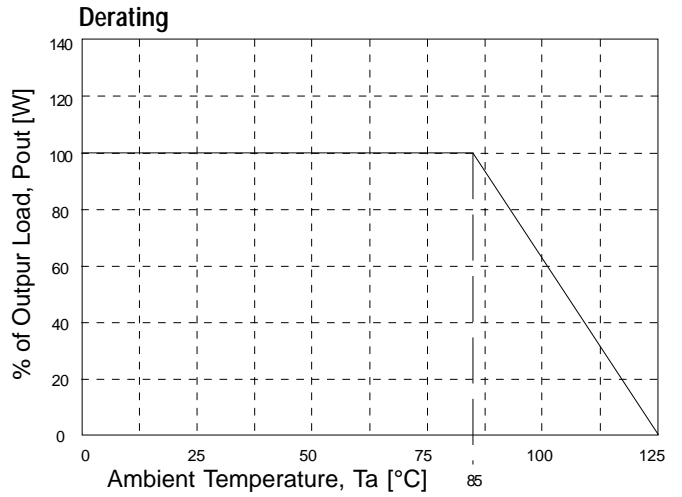
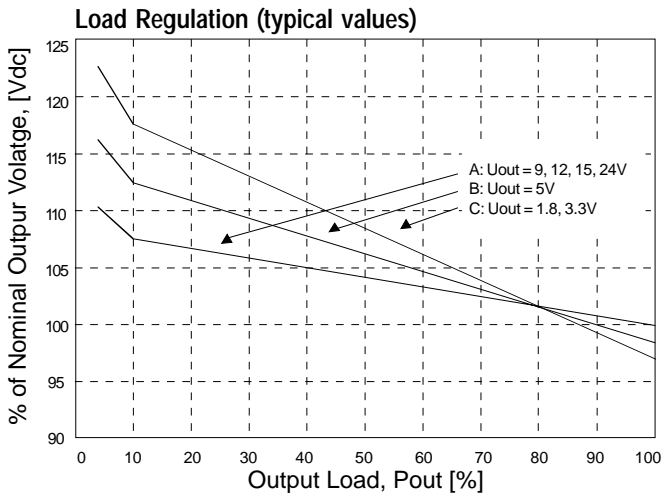
GENERAL SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
U_{iso}	Isolation voltage	input/output (V-version)	3'000			Vdc
		input/output (option: U-version)	4'000			
R_{iso}	Isolation resistance	Input to output		15		GOhm
$C_{I/O}$	Input / output capacitance	Input to output	20		65	pF
f_s	Switching frequency	Fixed, at full load	57		105	kHz
	Case material		Plastic, UL 94V-0			
	Weight	SIL-7		2.8		g
	Dimensions	LxWxH, 3'000V isoaltion	19.6 x 6 x 10.2			mm
		LxWxH, 4'000V isoaltion	19.6 x 7.05 x 10.2			mm

ENVIRONMENTAL SPECIFICATIONS

Characteristics		Conditions	min	typ	max	unit
T_A	Operating temperature	Ambient temperature, see also "Derating" page 3	-40		+85	°C
	Storage temperature	Ambient temperature	-55		+125	°C

Typical characteristics



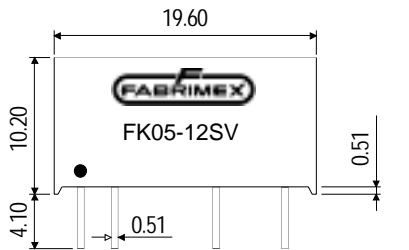
Case

Gehäuse

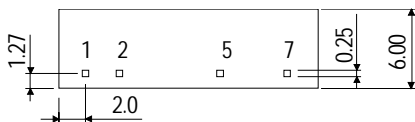
Boîtier

Dimensions in mm. Normal tolerance 1/10 ±0.5 mm, 1/100 ±0.25 mm

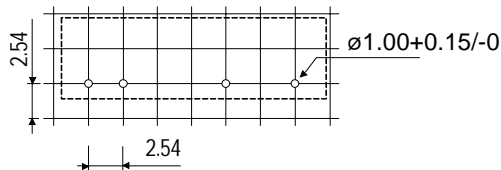
Single output with 3'000Vdc isolation - FKxx-xxSV series



Bottom View



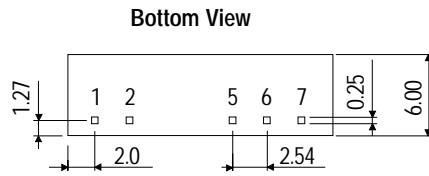
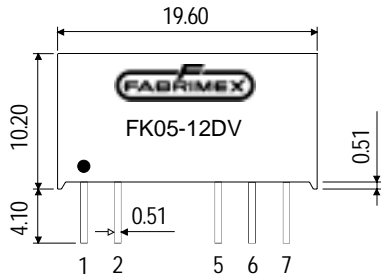
Recommended Footprint, Bottom View



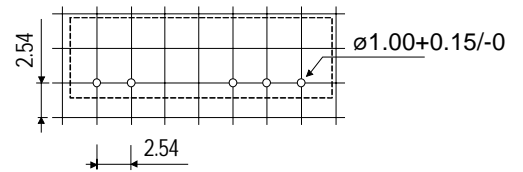
Pin	Single
1	+Vin
2	-Vin
3	NP
4	NP
5	-Vout
6	NP
7	+Vout

NP = No Pin

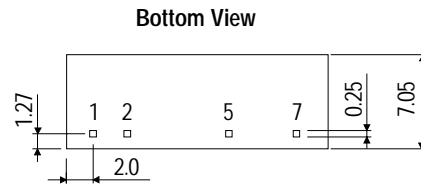
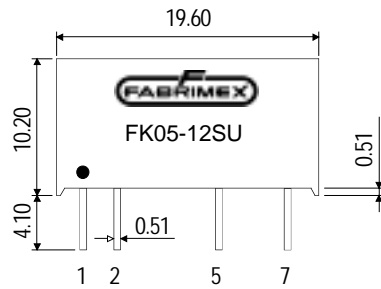
Dual output with 3'000Vdc isolation - FKxx-xxDV series



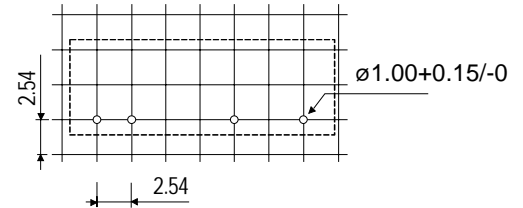
Recommended Footprint, Bottom View



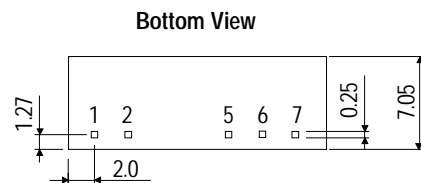
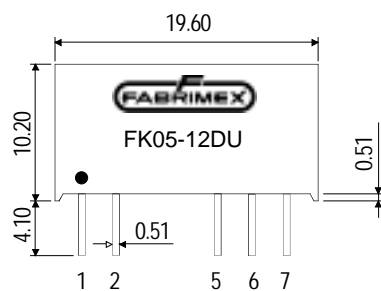
Single output with 4'000Vdc isolation - FKxx-xxSU series



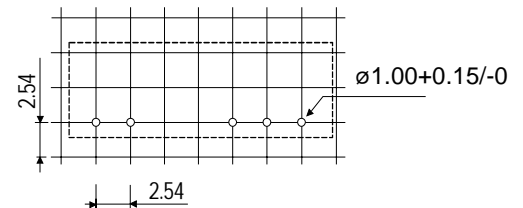
Recommended Footprint, Bottom View



Dual output with 4'000Vdc isolation - FKxx-xxDU series



Recommended Footprint, Bottom View



Pin	Single	Dual
1	+Vin	+Vin
2	-Vin	-Vin
3	NP	NP
4	NP	NP
5	-Vout	-Vout
6	NP	common
7	+Vout	+Vout

NP = No Pin

Notice: All statements, technical information, and recommendations related to FABRIMEX's products are based on information believed to be reliable, but the accuracy or completeness thereof is not guaranteed. Before utilizing the product, the user should determine the suitability of the product for its intended use.

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