



2018

PRODUCT CATALOGUE

POWER SUPPLIES



BATTERY CHARGERS



PASSIVE - RELAY INTERFACES



TIMERS - PROTECTION RELAY



GENERATOR CONTROLLERS



POWER FACTOR CONTROLLERS



MEASURE INSTRUMENTS

- ▶ COMPACT SIZE - 1 MODULE - 17.5mm
- ▶ SCREW CONNECTORS
- ▶ REAL DECLARED VALUES
- ▶ DIN RAIL MOUNTING EN50.022
- ▶ SELF-EXTINGUISHED MATERIAL UL94 V0



EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

TECHNICAL DATA

	UNIT	SWMF05L5	SWMF12L5	SWMF24L2
INPUT				
Supply voltage AC $\pm 10\%$	V \sim	230		
Nominal Frequency	Hz	50 - 60 [range: 47 - 63]		
Power consumption [max. AC]	VA	12	18	15
In-rush current at rated V \sim ⁽¹⁾	A	< 30		
Input overload protection	-	[internal]		
Input overvoltage protection [max. AC]	%	110		
OUTPUT				
Output voltage DC $\pm 2\%$	V $\overline{\sim}$	5	12	24
Max. continuous output current	A	0.5	0.5	0.2
Max. continuous output power	W	3	6.5	5
Mains/Load fluctuation control	%	± 3		
Ripple BW 20MHz at max. load	mV	< 150		
Hold-up time at rated V \sim and max. load ⁽²⁾	ms	> 40		
Rise time at rated V \sim ⁽²⁾	ms	5		
Parallel connection	-	NO		
Output overvoltage protection min. % of Vout	%	120		
Output overload protection % of max. load ⁽³⁾	%	110% with Hiccup		
GENERAL				
Efficiency at rated V \sim	%	75		
Working temperature - free convection	$^{\circ}\text{C}$	-20 / +60		
De-rating 3.4% In/ $^{\circ}\text{C}$ ⁽⁴⁾	$^{\circ}\text{C}$	> 45		
Storage temperature	$^{\circ}\text{C}$	-30 / +70		
Electrical Insulation	kV	3		
Overvoltage Category	-	II		
Protection degree	IP	20		
Pollution degree	-	2		
Relative Humidity w/o cond.	RH%	90		
MTBF (MIL STD 217D at 35 $^{\circ}\text{C}$)	h	20 000		
Altitude up to	m	2000		
Weight	g	60		
Dimensions	mm	98 x 17.5 x 64		

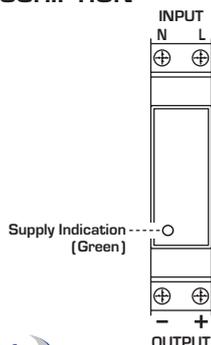
[1] See Curve 3 - 4 in User Manual

[2] See Curve 5 in User Manual

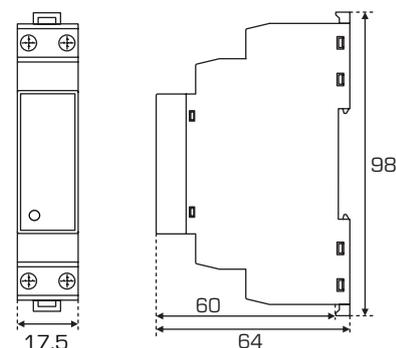
[3] See Curve 2 in User Manual

[4] See Curve 1 in User Manual

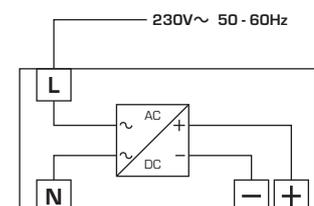
DESCRIPTION



DIMENSIONS (mm)



WIRING DIAGRAM



- ▶ SIZE 4 MODULES - 70mm
- ▶ SCREW CONNECTORS
- ▶ REAL DECLARED VALUES
- ▶ DIN RAIL MOUNTING EN50.022
- ▶ SELF-EXTINGUISHED MATERIAL UL94 V0



EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

TECHNICAL DATA

	UNIT	SWMF1202	SWMF2401
INPUT			
Supply voltage DC	V $\overline{\text{---}}$	200 - 350	
Supply voltage AC $\pm 10\%$	V \sim	230	
Nominal Frequency	Hz	50 - 60 (range: 47 - 63)	
Power consumption (max. AC)	VA	80	
In-rush current at rated V \sim ⁽¹⁾	A	32	
Input overload protection T-type fuse	A	1	
Input overvoltage protection (max. AC)	%	110	
OUTPUT			
Output voltage DC $\pm 2\%$	V $\overline{\text{---}}$	12	24
Max. continuous output current	A	2	1
Max. continuous output power	W	30	
Mains/Load fluctuation control	%	± 1	
Ripple BW 20MHz at max. load	mV	< 200	< 80
Hold-up time at rated V \sim and max. load ⁽²⁾	ms	100	
Rise time at rated V \sim ⁽²⁾	ms	100	
Parallel connection ⁽³⁾	-	Allowed	
Output overvoltage protection min. % of Vout	%	120	
Output overload protection % of max. load ⁽⁴⁾	%	110% with Hiccup	
GENERAL			
Efficiency at rated V \sim	%	75	
Working temperature - free convection	$^{\circ}\text{C}$	-20 / +60	
De-rating 3.4% In/ $^{\circ}\text{C}$ ⁽⁵⁾	$^{\circ}\text{C}$	> 45	
Storage temperature	$^{\circ}\text{C}$	-30 / +70	
Electrical Insulation	kV	3	
Overvoltage Category	-	II	
Protection degree	IP	20	
Pollution degree	-	2	
Relative Humidity w/o cond.	RH%	90	
MTBF (MIL STD 217D at 35 $^{\circ}\text{C}$)	h	20 000	
Altitude up to	m	2000	
Weight	g	60	
Dimensions	mm	95 x 70 x 60	

(1) See Curve 3 - 4 in User Manual

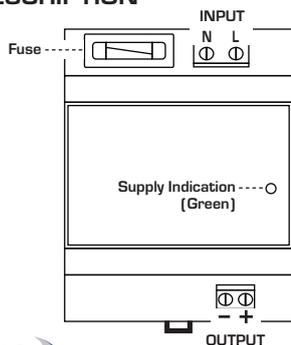
(2) See Curve 5 in User Manual

(3) See Connecting in parallel in User Manual

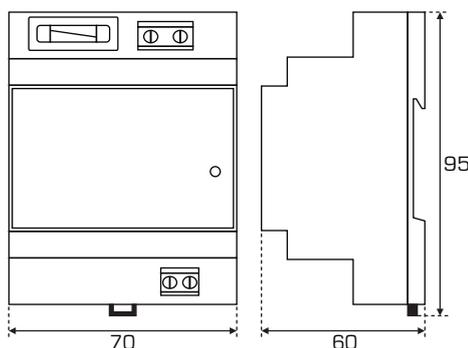
(4) See Curve 2 in User Manual

(5) See Curve 1 in User Manual

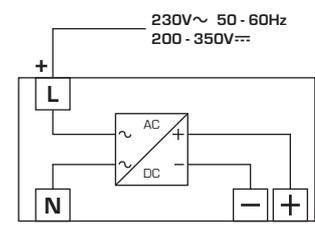
DESCRIPTION



DIMENSIONS (mm)



WIRING DIAGRAM



- ▶ HIGH EFFICIENCY UP TO 90%
- ▶ 150% PEAK LOAD CAPABILITY
- ▶ 105°C LONG LIFE CAPACITANCE
- ▶ METALLIC BOX PROTECTION IP20
- ▶ DIN RAIL MOUNTING EN50.022

■ PROTECTION:

- Short circuit
- Overload
- Overvoltage
- Overtemperature (only on standard line)



EU Directives - CE Marking:

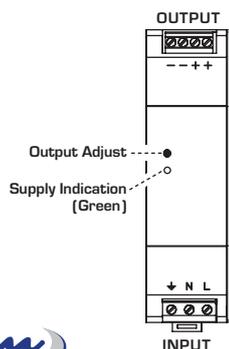
- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

TECHNICAL DATA

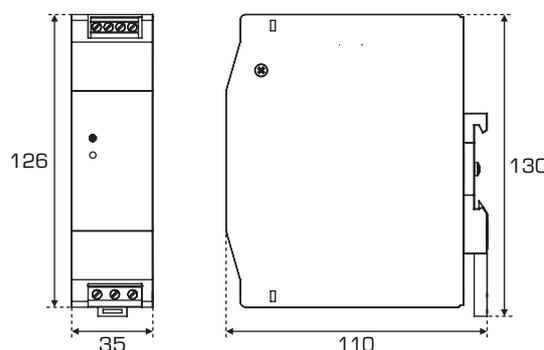
	UNIT	SWMT2445	SWMT2445E
INPUT			
Supply voltage AC	V \sim	100 - 240	
Nominal frequency	Hz	50 - 60 (range: 47 - 63)	
Supply voltage DC	V \equiv	140 - 340	
Input current at 230VAC	A	0.4	0.6
In-rush current at 230VAC	A	15	35
Input overload protection T-type fuse (internal)	A	2	
Power Factor at 230VAC	-	0.5	
OUTPUT			
Output adjustable voltage DC	V \equiv	24 - 28 ($\pm 2\%$)	
Max. continuous output current	A	2	
Max. continuous output power	W	45	
Ripple BW 20MHz at max. load	mV	120	100
Hold-up time at rated V \sim and max. load	ms	20	
Rise time at rated V \sim	ms	200	200
Parallel connection	-	NO	
Output overvoltage protection min. % of Vout	%	120 - 135	120 - 150
Output overload protection % of max. load	%	110 - 150	
Power good relay	%	NO	
GENERAL			
Efficiency at rated V \sim	%	88.5	88
Working temperature - free convection	$^{\circ}$ C	-25 / +70	-20 / +60
De-rating 2.5% In/ $^{\circ}$ C	$^{\circ}$ C	> 55	
Storage temperature	$^{\circ}$ C	-40 / +85	
Electrical Insulation	kV	3 (IN/OUT)	1.5 (IN/⊕) 0.5 (OUT/⊕)
Over-temperature protection	-	YES	NO
Protection degree	IP	20	
Relative Humidity w/o cond.	RH%	90	
Altitude up to	m	2000	
Weight	g	310	
Dimensions	mm	130 x 35 x 110	



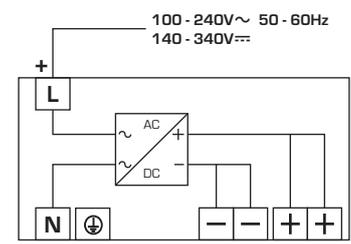
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DIMENSIONS (mm)



WIRING DIAGRAM



- ▶ HIGH EFFICIENCY UP TO 90%
- ▶ 150% PEAK LOAD CAPABILITY
- ▶ 105°C LONG LIFE CAPACITANCE
- ▶ METALLIC BOX PROTECTION IP20
- ▶ DIN RAIL MOUNTING EN50.022

■ PROTECTION:

- Short circuit
- Overload
- Overvoltage
- Overtemperature (only on standard line)



EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

TECHNICAL DATA

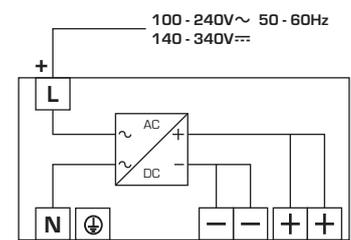
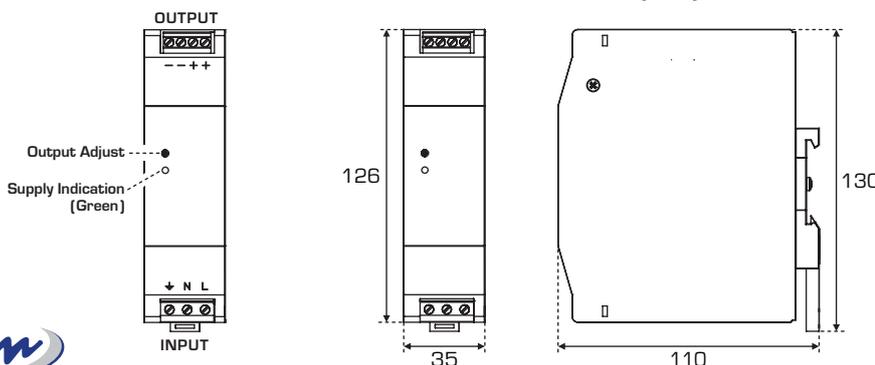
	UNIT	SWMT2475	SWMT2475E
INPUT			
Supply voltage AC	V \sim	100 - 240	
Nominal frequency	Hz	50 - 60 (range: 47 - 63)	
Supply voltage DC	V \equiv	140 - 340	
Input current at 230VAC	A	0.97	0.9
In-rush current at 230VAC	A	20	35
Input overload protection T-type fuse (internal)	A	3.15	
Power Factor at 230VAC	-	0.5	
OUTPUT			
Output adjustable voltage DC	V \equiv	24 - 28 ($\pm 2\%$)	
Max. continuous output current	A	3	
Max. continuous output power	W	75	
Ripple BW 20MHz at max. load	mV	120	100
Hold-up time at rated V \sim and max. load	ms	20	
Rise time at rated V \sim	ms	200	200
Parallel connection	-	NO	
Output overvoltage protection min. % of Vout	%	120 - 135	120 - 150
Output overload protection % of max. load	%	110 - 150	
Power good relay	%	NO	
GENERAL			
Efficiency at rated V \sim	%	89.5	88
Working temperature - free convection	°C	-25 / +70	-20 / +60
De-rating 2.5% In/°C	°C	> 55	
Storage temperature	°C	-40 / +85	
Electrical Insulation	kV	3 (IN/OUT)	1.5 (IN/⊕) 0.5 (OUT/⊕)
Over-temperature protection	-	YES	NO
Protection degree	IP	20	
Relative Humidity w/o cond.	RH%	90	
Altitude up to	m	2000	
Weight	g	360	310
Dimensions	mm	130 x 35 x 110	



DESCRIPTION

DIMENSIONS (mm)

WIRING DIAGRAM



- ▶ HIGH EFFICIENCY UP TO 92%
- ▶ 150% PEAK LOAD CAPABILITY
- ▶ 105°C LONG LIFE CAPACITANCE
- ▶ BUILT-IN ACTIVE PFC FUNCTION
- ▶ METALLIC BOX PROTECTION IP20
- ▶ DIN RAIL MOUNTING EN50.022

■ PROTECTION:

- Short circuit
- Overload
- Overvoltage
- Overtemperature (only on standard line)

EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

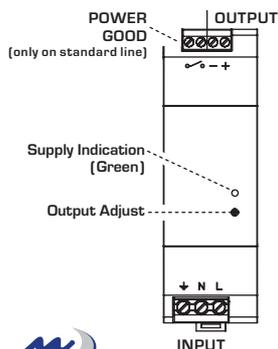


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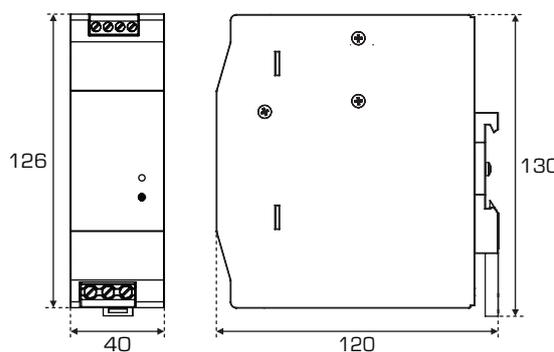
	UNIT	SWMT24120	SWMT24120E
INPUT			
Supply voltage AC	V~	100 - 240	
Nominal frequency	Hz	50 - 60 (range: 47 - 63)	
Supply voltage DC	V=	140 - 340	
Input current at 230VAC	A	0.6	1.4
In-rush current at 230VAC	A	25	35
Input overload protection T-type fuse (internal)	A	5	4
Power Factor at 230VAC	-	0.96	0.5
OUTPUT			
Output adjustable voltage DC	V=	24 - 28 (±2%)	
Max. continuous output current	A	5	
Max. continuous output power	W	120	
Ripple BW 20MHz at max. load	mV	80	150
Hold-up time at rated V~ and max. load	ms	20	
Rise time at rated V~	ms	60	60
Parallel connection	-	NO	
Output overvoltage protection min. % of Vout	%	110 - 140	120 - 150
Output overload protection % of max. load	%	110 - 150	
Power good relay	%	YES	NO
GENERAL			
Efficiency at rated V~	%	92	86
Working temperature - free convection	°C	-25 / +70	-20 / +60
De-rating 2.5% In/°C	°C	> 55	
Storage temperature	°C	-40 / +85	
Electrical Insulation	kV	3 (IN/OUT)	1.5 (IN/⊕) 0.5 (OUT/⊕)
Over-temperature protection	-	YES	NO
Protection degree	IP	20	
Relative Humidity w/o cond.	RH%	90	
Altitude up to	m	2000	
Weight	g	540	
Dimensions	mm	130 x 40 x 120	



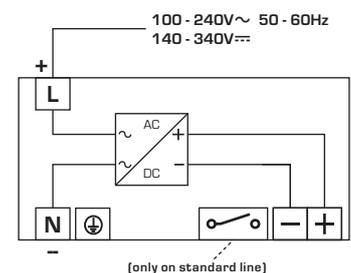
DESCRIPTION



DIMENSIONS (mm)



WIRING DIAGRAM



- ▶ HIGH EFFICIENCY UP TO 93%
- ▶ 150% PEAK LOAD CAPABILITY
- ▶ 105°C LONG LIFE CAPACITANCE
- ▶ BUILT-IN ACTIVE PFC FUNCTION
- ▶ LLC TECHNOLOGY
- ▶ METALLIC BOX PROTECTION IP20
- ▶ DIN RAIL MOUNTING EN50.022

- PROTECTION:
- Short circuit
 - Overload
 - Overvoltage
 - Overtemperature

EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

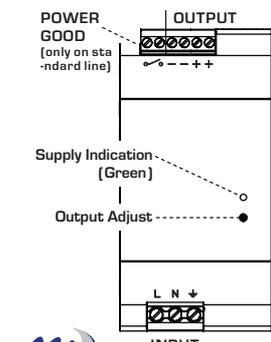


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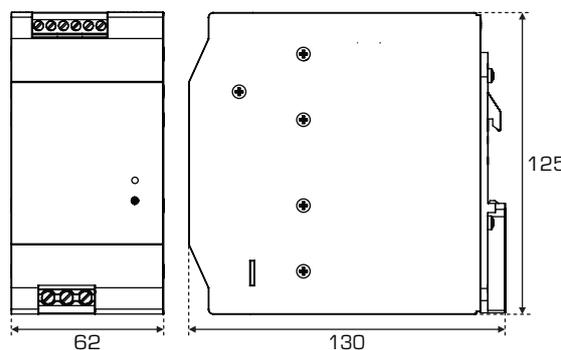
	UNIT	SWMT24240	SWMT24240E
INPUT			
Supply voltage AC	V \sim	100 - 240	
Nominal frequency	Hz	50 - 60 (range: 47 - 63)	
Supply voltage DC	V \equiv	140 - 340	
Input current at 230VAC	A	1.4	1.5
In-rush current at 230VAC	A	30	35
Input overload protection T-type fuse (internal)	A	5	
Power Factor at 230VAC	-	0.92	0.96
OUTPUT			
Output adjustable voltage DC	V \equiv	24 - 28 ($\pm 2\%$)	
Max. continuous output current	A	10	
Max. continuous output power	W	240	
Ripple BW 20MHz at max. load	mV	100	120
Hold-up time at rated V \sim and max. load	ms	20	
Rise time at rated V \sim	ms	60	60
Parallel connection	-	NO	
Output overvoltage protection min. % of Vout	%	120 - 150	
Output overload protection % of max. load	%	110 - 150	
Power good relay	%	YES	NO
GENERAL			
Efficiency at rated V \sim	%	93	91
Working temperature - free convection	$^{\circ}$ C	-25 / +70	-20 / +50
De-rating 2.5% In/ $^{\circ}$ C	$^{\circ}$ C	> 60	
Storage temperature	$^{\circ}$ C	-40 / +85	
Electrical Insulation	kV	3 (IN/OUT)	1.5 (IN/⊕) 0.5 (OUT/⊕)
Over-temperature protection	-	YES	
Protection degree	IP	20	
Relative Humidity w/o cond.	RH%	90	
Altitude up to	m	2000	
Weight	g	810	
Dimensions	mm	130 x 62 x 125	



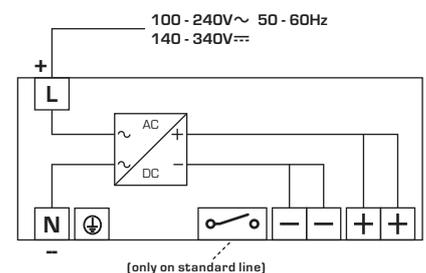
DESCRIPTION



DIMENSIONS (mm)



WIRING DIAGRAM



- ▶ HIGH EFFICIENCY UP TO 94%
- ▶ 150% PEAK LOAD CAPABILITY
- ▶ 105°C LONG LIFE CAPACITANCE
- ▶ BUILT-IN ACTIVE PFC FUNCTION
- ▶ LLC TECHNOLOGY
- ▶ PARALLEL REDUNDANT FUNCTION (1+1)
- ▶ METALLIC BOX PROTECTION IP20
- ▶ DIN RAIL MOUNTING EN50.022
- PROTECTION:
 - Short circuit
 - Overload
 - Overvoltage
 - Overtemperature



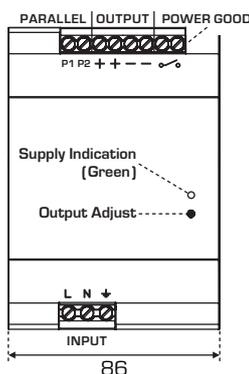
EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

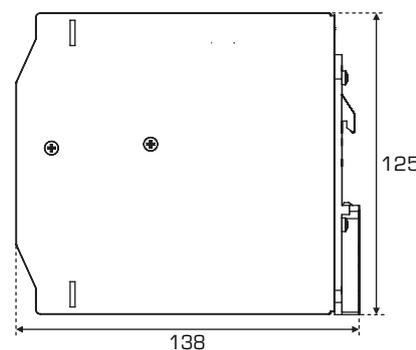
TECHNICAL DATA

INPUT	UNIT	SWMT24480
Supply voltage AC	V \sim	100 - 240
Nominal frequency	Hz	50 - 60 (range: 47 - 63)
Supply voltage DC	V \equiv	140 - 340
Input current at 230VAC	A	2.4
In-rush current at 230VAC	A	50
Input overload protection T-type fuse (internal)	A	6.3
Power Factor at 230VAC	-	0.97
OUTPUT		
Output adjustable voltage DC	V \equiv	24 - 28 ($\pm 2\%$)
Max. continuous output current	A	20
Max. continuous output power	W	480
Ripple BW 20MHz at max. load	mV	150
Hold-up time at rated V \sim and max. load	ms	20
Rise time at rated V \sim	ms	60
Parallel connection	-	YES
Output overvoltage protection min. % of Vout	%	110 - 140
Output overload protection % of max. load	%	110 - 150
Power good relay	%	YES
GENERAL		
Efficiency at rated V \sim	%	93
Working temperature - free convection	°C	-25 / +70
De-rating 2.5% In/°C	°C	> 60
Storage temperature	°C	-40 / +85
Electrical Insulation	kV	3 (IN/OUT) 1.5 (IN/⊕) 0.5 (OUT/⊕)
Over-temperature protection	-	YES
Protection degree	IP	20
Relative Humidity w/o cond.	RH%	90
Altitude up to	m	2000
Weight	g	1600
Dimensions	mm	138 x 86 x 125

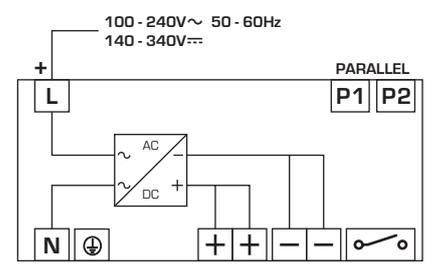
DESCRIPTION



DIMENSIONS (mm)



WIRING DIAGRAM



- ▶ ADJUSTABLE OUTPUT VOLTAGE
- ▶ THERMAL PROTECTION
- ▶ ELECTRO-MECHANICAL OVERTEMP ALARM
- ▶ METALLIC BOX PROTECTION IP20
- ▶ SCREW CONNECTORS
- ▶ ADVANCED DESIGN
- ▶ DIN RAIL MOUNTING EN50.022 OR SCREW



EU Directives - CE Marking:

- > 2014/30/UE - EMC
- > 2014/35/UE - LVD

TECHNICAL DATA

	UNIT	SWTL2410
INPUT		
Supply voltage AC $\pm 10\%$	V \sim	3 x 350 - 500
Nominal Frequency	Hz	50 - 60 [range: 47 - 63]
Power consumption [max. AC]	VA	625
In-rush current at rated V \sim ⁽¹⁾	A	50 [Electronic Limitation]
Input overvoltage protection [max. AC]	%	110
OUTPUT		
Output voltage DC adjustable	V $\overline{\sim}$	24 [range: 22 - 28]
Max. continuous output current	A	10
Max. continuous output power	W	240
Mains/Load fluctuation control	%	± 1
Ripple BW 20MHz at max. load	mV	< 50
Hold-up time at rated V \sim and max. load ⁽²⁾	ms	90
Rise time at rated V \sim ⁽²⁾	ms	2000
Parallel connection ⁽³⁾	-	Allowed
Output overvoltage protection min. % of Vout	%	120
Output overload protection % of max. load ⁽⁴⁾	%	110% with Hiccup
Red LED overload alarm	V	ON for Vout < 20
Relay overload alarm	V	Excited coil for Vout < 20
Bimetallic trasducer [Thermal protection]	$^{\circ}\text{C}$	Normally NC - NO > 100
GENERAL		
Efficiency at rated V \sim	%	> 87
Working temperature - free convection	$^{\circ}\text{C}$	-20 / +60
Always without de-rating with max. lout	$^{\circ}\text{C}$	60
Storage temperature	$^{\circ}\text{C}$	-30 / +70
Electrical Insulation	kV	3 (IN/OUT) 1.5 (IN/⊕) 0.5 (OUT/⊕)
Overvoltage Category	-	II
Protection degree	IP	20
Pollution degree	-	2
Relative Humidity w/o cond.	RH%	95
MTBF (MIL STD 217D at 35 $^{\circ}\text{C}$)	h	20 000
Altitude up to	m	2000
Weight	g	3560
Dimensions	mm	242 x 164 x 91

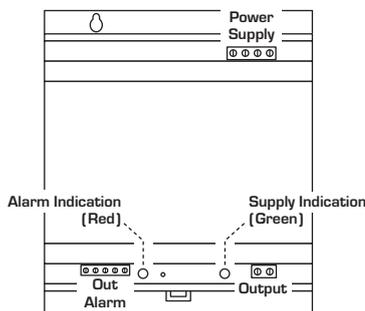
[1] See Curve 3 - 4 in User Manual

[2] See Curve 5 in User Manual

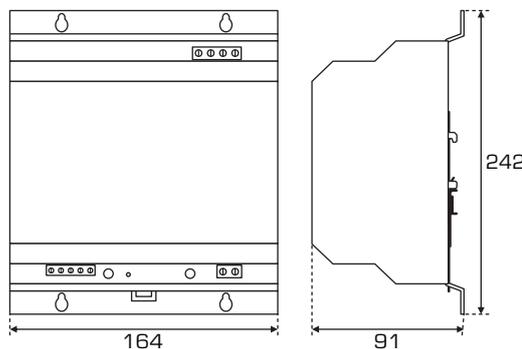
[3] See Connecting in parallel in User Manual

[4] See Curve 2 in User Manual

DESCRIPTION



DIMENSIONS (mm)



WIRING DIAGRAM

