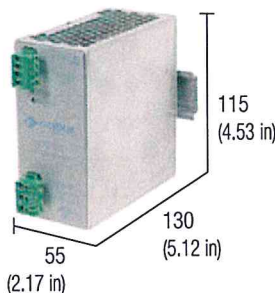


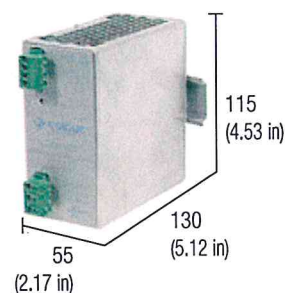
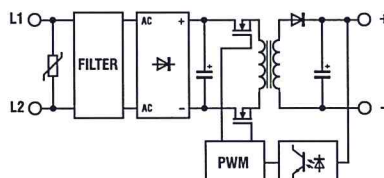
Single-phase / two-phase switching power supply 230-400-500 Vac 24 Vdc regulated output

- High reliability and immunity against over voltage due to failures on AC line
- Both single-phase and two-phase 185...550 Vac
- Short circuit, overload, over temperature, input / output overvoltage protection
- High outrush current for starting-up heavy loads and to guarantee the reliability of the 24 Vdc output
- High efficiency and low dissipated power
- Designed for use with SELV and PELV circuitry
- Pluggable connections



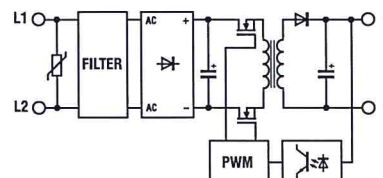
24 Vdc 3.2 A @ 45°C - 77 W

BLOCK DIAGRAM



24 Vdc 5 A @ 45°C - 120 W

BLOCK DIAGRAM



NOTES

The height dimension includes 35 mm DIN rail
 (1) Version with Oring diode and failure contact for redundant parallel connection
 Version available upon request; for information call our sales department, local agent or representative
 (2) 550 Vdc max for UL508

APPLICATIONS

The CSW series has a 185...550 Vac input range and can be supplied either with single phase 230 Vac or two phases in the voltage range 185 to 550 Vac. This series uses 900V rated input components, thus has a higher immunity to failures on the AC lines, frequent in industrial facilities.
 If 230 Vac comes from L1 and N, if L2 or L3 are shorted to gnd or N conductors, the input of the power supply is feeded with 400-500 Vac and this destroys immediately any standard single phase 230 Vac power supply. Due to the design of the input circuit which can work up to 550 Vac, the CSW continues to work even in case of such failure onto the AC lines, hence increasing the reliability of the whole system.
 When 230 Vac line comes from a 3 phase line (eg. from L1 and N), there are two cases of failures that make the 230Vac rise to 400...500 Vac:
 - when L2 or L3 are shorted to N or to gnd in systems with grounded N, and this happens when the neutral of the control cabinet is disconnected from the facility neutral for failure, mistakes, measurements;
 -when another load is supplied by eg. L2 or L3 and N and get shorted.
 CSW series are fully protected to prevent damages from over temperature, short circuit, overload, surge voltage applied to input and output.

VERSIONS

Standard
With failure contact

INPUT TECHNICAL DATA

Rated voltage	200- 500 Vac (range 185...550 Vac / 270...770 Vdc) (2)
Frequency	47...63 Hz
Current @ Iout max.	1.1-0.7 A @ 120-230 Vac / 0.35-0.5 A @ 400-550 Vac
Inrush current	< 15 A
Power factor	> 0.65
Protection fuse	2 x T 2 A to be provided externally
External circuit breaker	2 x 6 A with C curve

OUTPUT TECHNICAL DATA

Voltage	24 Vdc (adjustable 24...27.5 Vdc)
Maximum current	4.5 A overload limit / 14 A peak for 0.5 s
Continuous current	3.2 A @ 50°C
Load regulation	< 1%
Ripple @ rated U-I output	≤ 50 mVpp
Hold up time	> 20 ms
Overload / short circuit protection	hiccup 1.5 circuit auto reset over temperature protection
Output signal	standard version "P" version
Parallel connection	SPDT 1 A / 250 Vac
Redundant parallel connection	possible possible with external Oring diode

APPROVALS

GENERAL TECHNICAL DATA

Efficiency	> 87% @ 400 Vac
Dissipated power	14 W
Operating temperature	-20...+60°C, over 50°C reduce 0.05 A per °C
Input / output isolation	3 kVac / 60 s
Input / ground isolation	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Protection degree	IP 20
Standard / approvals	EN50178, EN61558, EN60950, UL508 EN61000-6-2, EN61000-6-4, EN55011, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
EMC Standards	2.5 mm ² , screw type pluggable (24-12 AWG) aluminium and stainless steel 600 g (1.32 lbs)
Connection terminal	vertical on rail, allow 10 mm spacing between adjacent components
Housing material	aluminium and stainless steel
Approx. weight	600 g (1.32 lbs)
Mounting information	vertical on rail, allow 10 mm spacing between adjacent components
Mounting rail type	according to IEC60715/TH35-7.5

TYPE / Cat. No.

CSW75C	Cat. No. XCSW75C
—	(1)

INPUT TECHNICAL DATA

Rated voltage	200- 500 Vac (range 185...550 Vac / 270...770 Vdc) (2)
Frequency	47...63 Hz
Current @ Iout max.	1.8-1.1 A @ 120-230 Vac / 0.55-0.5 A @ 400-550 Vac
Inrush current	< 20 A
Power factor	> 0.65
Protection fuse	2 x T 3.15 A to be provided externally
External circuit breaker	2 x 6 A with C curve

OUTPUT TECHNICAL DATA

Voltage	24 Vdc (adjustable 24...27.5 Vdc)
Maximum current	7 A overload limit / 15 A peak for 0.5 s
Continuous current	5 A @ 50°C
Load regulation	< 1%
Ripple @ rated U-I output	≤ 50 mVpp
Hold up time	> 20 ms
Overload / short circuit protection	hiccup 1.4 circuit auto reset over temperature protection
Output signal	—
Parallel connection	SPDT 1 A / 250 Vac
Redundant parallel connection	possible possible with external Oring diode

APPROVALS

GENERAL TECHNICAL DATA

Efficiency	> 88% @ 400 Vac
Dissipated power	18 W
Operating temperature	-20...+60°C, over 50°C reduce 0.1 A per °C
Input / output isolation	3 kVac / 60 s
Input / ground isolation	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Protection degree	IP 20
Standard / approvals	EN50178, EN61558, EN60950, UL508 EN61000-6-2, EN61000-6-4, EN55011, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
EMC Standards	2.5 mm ² , screw type pluggable (24-12 AWG) aluminium and stainless steel 700 g (1.54 lbs)
Connection terminal	vertical on rail, allow 10 mm spacing between adjacent components
Housing material	aluminium and stainless steel
Approx. weight	700 g (1.54 lbs)
Mounting information	vertical on rail, allow 10 mm spacing between adjacent components
Mounting rail type	according to IEC60715/TH35-7.5

TYPE / Cat. No.

CSW120C	Cat. No. XCSW120C
—	(1)

INPUT TECHNICAL DATA

Rated voltage	200- 500 Vac (range 185...550 Vac / 270...770 Vdc) (2)
Frequency	47...63 Hz
Current @ Iout max.	1.8-1.1 A @ 120-230 Vac / 0.55-0.5 A @ 400-550 Vac
Inrush current	< 20 A
Power factor	> 0.65
Protection fuse	2 x T 3.15 A to be provided externally
External circuit breaker	2 x 6 A with C curve

OUTPUT TECHNICAL DATA

Voltage	24 Vdc (adjustable 24...27.5 Vdc)
Maximum current	7 A overload limit / 15 A peak for 0.5 s
Continuous current	5 A @ 50°C
Load regulation	< 1%
Ripple @ rated U-I output	≤ 50 mVpp
Hold up time	> 20 ms
Overload / short circuit protection	hiccup 1.4 circuit auto reset over temperature protection
Output signal	—
Parallel connection	SPDT 1 A / 250 Vac
Redundant parallel connection	possible possible with external Oring diode

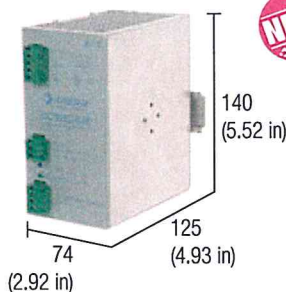
APPROVALS

GENERAL TECHNICAL DATA

Efficiency	> 88% @ 400 Vac
Dissipated power	18 W
Operating temperature	-20...+60°C, over 50°C reduce 0.1 A per °C
Input / output isolation	3 kVac / 60 s
Input / ground isolation	2 kVac / 60 s
Output / ground isolation	0.5 kVac / 60 s
Protection degree	IP 20
Standard / approvals	EN50178, EN61558, EN60950, UL508 EN61000-6-2, EN61000-6-4, EN55011, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
EMC Standards	2.5 mm ² , screw type pluggable (24-12 AWG) aluminium and stainless steel 700 g (1.54 lbs)
Connection terminal	vertical on rail, allow 10 mm spacing between adjacent components
Housing material	aluminium and stainless steel
Approx. weight	700 g (1.54 lbs)
Mounting information	vertical on rail, allow 10 mm spacing between adjacent components
Mounting rail type	according to IEC60715/TH35-7.5

Single-phase / two-phase switching power supply 230-400-500 Vac

24 Vdc regulated output



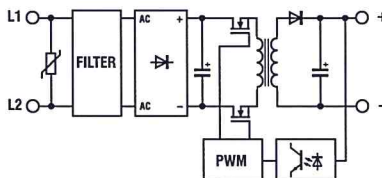
- High reliability and immunity against over voltage due to failures on AC line
- Both single-phase and two-phase 185...550 Vac
- Short circuit, overload, over temperature, input / output overvoltage protection
- High outrush current for starting-up heavy loads and to guarantee the reliability of the 24 Vdc output
- High efficiency and low dissipated power
- Designed for use with SELV and PELV circuitry

24 Vdc 10 A @ 50°C - 240 W

NOTES

The height dimension includes 35 mm DIN rail
 (1) Version with Oring diode and failure contact for redundant parallel connection
 Version available upon request; for information call our sales department, local agent or representative
 (2) 550 Vdc max per UL508

BLOCK DIAGRAM



APPLICATIONS

The CSW series has a 185...550 Vac input range and can be supplied either with single phase 230 Vac or two phase between 208 and 550 Vac.

This series use 900V rated input components, thus have a higher immunity to failure onto the AC lines, frequent in industrial facilities.

If 230 Vac comes from L1 and N, if L2 .L3 to gnd are shorted to gnd or N, the input voltage is supplied with 400-500 Vac and this causes immediate failure of any standard single phase 230 Vac electronic device. Due to the design of the input circuit which will work up to 550 Vac, the CSW continues to work thereby increasing the reliability of the system.

When 230 Vac line comes from a 3 phase line (eg from L1 and N), there are 3 cases of failures that make the 230 Vac rise to 400...500 Vac:

- when L2 or L3 are shroted to N or to gnd in systems with grounded N, and this happens when the neutral of the control cabinet is disconnected from the facility neutral for failure, mistakes/measurements;
- when another load is supplied by eg. L2 or L3 and N becomes a short circuit.

CSW series are fully protected to prevent damages from over temperature, short circuit, overload, surge voltage applied to input and output.

VERSIONS

- Standard
- With failure contact

INPUT TECHNICAL DATA

- Rated voltage
- Frequency
- Current @ Iout max.
- Inrush current
- Power factor
- Protection fuse
- External circuit breaker

OUTPUT TECHNICAL DATA

- Voltage
- Maximum current
- Continuous current
- Load regulation
- Ripple @ rated U-I output
- Hold up time
- Overload / short circuit protection

- Output signal
- standard version
"P" version

- Parallel connection
- Redundant parallel connection

APPROVALS

GENERAL TECHNICAL DATA

- Efficiency
- Dissipated power
- Operating temperature
- Input / output isolation
- Input / ground isolation
- Output / ground isolation
- Protection degree
- Standard / approvals
- EMC Standards

- Connection terminal
- Housing material
- Approx. weight
- Mounting information

- Mounting rail type
- according to IEC60715/TH35-7.5

TYPE / Cat. No.

TYPE	Cat. No.
CSW240C	CSW240C
—	XCSW240C
(1)	

- 200- 500 Vac** (range 185...550 Vac / 270...770 Vdc) (2)
- 47...63 Hz
- 2.2 A @ 230 Vac / 1.1 A @ 400 Vac
- < 20 A
- > 0.65
- 2 x T 6.3 A to be provided externally
- 2 x 10 A with C curve

- 24 Vdc** (adjustable 24...27.5 Vdc)
- 14 A overload limit, > 20 A for 0.5 s (peak)
- 10 A @ 50°C**
- < 1%
- ≤ 50 mVpp @ 230 Vac
- > 20 ms @ 230 Vac full load
- hiccup circuit, auto reset
- over temperature protection
- green LED power OK and SPDT 1A/30V failure contact
- (1)

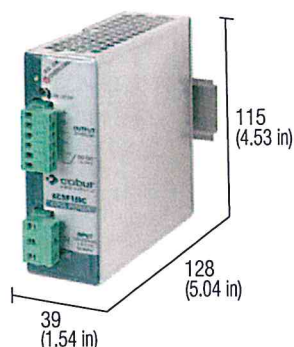
- possible
- possible with external Oring diode



- > 91% @ 400 Vac
- 24 W max
- 20...+60°C, with over temperature protection
- 3 kVac / 60 s
- 2 kVac / 60 s
- 0.5 kVac / 60 s
- IP 20 IEC529, EN60529
- EN50178, EN61558, EN60950, UL508
- EN61000-6-2, EN61000-6-4, EN55011, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
- 2.5 mm², screw type pluggable (24-12 AWG)
- aluminium
- 1 Kg (2.2 lbs)
- vertical on rail, allow 10 mm spacing between adjacent components
- PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB**

Single-phase switching power supply 120-230 Vac output power 120 W

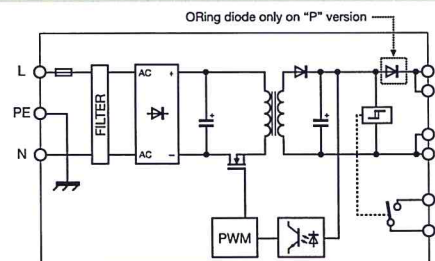
- Single-phase input 90...264 Vac and DC 100...345 Vdc
- Short circuit, overload, over temperature, input and output overvoltage protections
- High outrush current to guarantee downstream overcurrent protections selectivity and to start-up heavy loads
- Failure contact for Uout -10%
- Compact dimensions
- Suitable for applications in SELV and PELV circuits



NOTES

- The depth dimension includes the terminal blocks and the DIN clamp.
- (2) With 100...127 Vdc input voltage, constant output power and $T_a > 45^\circ\text{C}$, the output current must be derated by 25%
- (3) Over 45°C (113°F) apply a derating $-0.08 \text{ A}/^\circ\text{C}$ for version C, CP and CPH; $-0.12 \text{ A}/^\circ\text{C}$ for version B; $-0.05 \text{ A}/^\circ\text{C}$ for version DP;
- (4) For this peak current, the output voltage does not drop more than 10% of the nominal value, but the current value, provided by the power supply also depends on the total line resistance.
- (5) Only on version CSF120CP, for orders, adds the letter H to the code (XGSF120CPH)
- (6) article available till seel-out

BLOCK DIAGRAM



Special version for DC motors

VERSIONS

- Output 24 Vdc 5 A
- Output 24 Vdc 5 A redundant version
- Output 12...15 Vdc 7 A
- Output 48 Vdc 2.5 A

INPUT TECHNICAL DATA

- Input rated voltage
- Frequency
- Current @ nominal Iout (Uin 120 / 230 Vac)
- Inrush peak current
- Power factor
- Internal protection fuse
- External protection on AC line

Cod. XCSF120C	Cod. XCSF120CP	Cod. XCSF120B	Cod. XCSF120DP
CSF120C	CSF120CP	CSF120B (6)	CSF120DP

120-230 Vac (range 90...264 Vac / 100...345 Vdc) (2)
 47...63 Hz
 1.9 A / 1.1 A \pm 10%
 < 20 A
 > 0.65
 T 3.15 A replaceable
 circuit breaker: 4 A - C characteristic - fuse: T 4 A

OUTPUT TECHNICAL DATA

- Output rated voltage
- Output adjustable range
- Continuous current
- Overload limit
- Short circuit peak current
- Load regulation
- Ripple @ nominal ratings
- Hold up time @ In (Uin 120 / 230 Vac)
- Overload / short circuit protections
- Status display
- Alarm contact threshold
- Parallel connection
- Redundant parallel connection

24 Vdc	12...15 Vdc	48 Vdc
23...27.5 Vdc	12...15 Vdc	45...55 Vdc
5 A @ 45°C (3)	7 A @ 45°C (3)	2.5 A @ 45°C (3)
8 A for >30 s	8 A for >30 s	8 A for >30 s
with 90% Un (4)	with 90% Un (4)	with 90% Un (4)
15 A for 50 ms (4)	15 A for 50 ms (4)	7.5 A for 50 ms (4)
< 1%	< 1%	< 1%
\leq 30 mVpp	\leq 40 mVpp	\leq 30 mVpp
>17 ms / >72 ms	>24 ms / >80 ms	>16 ms / >81 ms
hiccup at the overload limit with auto reset / over temperature protection		
"DC OK" green LED / "DC OK" alarm contact/ "Overload" red LED		
<21.6 Vdc	<10.8 Vdc	<43.2 Vdc
possible	possible	possible
possible with external ORing diode	possible with external ORing diode	factory provided with internal ORing diode

GENERAL TECHNICAL DATA

- Efficiency (Uin 120 / 230 Vac)
- Dissipated power (Uin 120 / 230 Vac)
- Operating temperature range
- Input/output isolation
- Input/ground isolation
- Output/ground isolation
- Standard/approvals
- EMC Standards
- MTBF @ 25°C @ nominal ratings
- Overvoltage category/Pollution degree
- Protection degree
- Connection terminal
- Housing material
- Approx. weight
- Mounting information

>86% / >90%
 19 W / 13 W
 -20...+60°C, with derating over 45°C / over temperature protection (3)
 3 kVac / 60 s SELV output
 1.5 kVac / 60 s
 0.5 kVac / 60 s
 EN50178, EN61558, EN60950, IEC950, UL508, UL60950
 EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11
 >500'000 h acc. to SN 29500 / >150'000 h acc. to MIL Std. HDBK 217F
 II / 3
 IP 20 IEC 529, EN60529
 2.5 mm² pluggable screw type
 aluminium
 400 g (14.12 oz)
 vertical on rail, allow 10 mm spacing between adjacent components

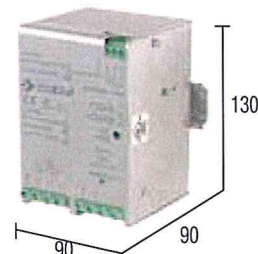
MOUNTING ACCESSORIES

- Mounting rail type according to IEC60715/TH35-7.5
- Mounting rail type according to IEC60715/G32

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB

Alimentation à découpage triphasée 400-500 Vac puissance de sortie 240 W

- Entrée triphasée 340...550 Vac ou biphasée avec réduction
- Protection contre les court-circuits, surcharges, surchauffes et surtensions en entrée et en sortie
- Haute courant en sortie pour assurer la sélectivité des protections et la mise en train des charges lourdes
- Haute efficacité et faible consommation
- Adaptée aux circuits SELV et PELV



NOTES

Les mesures tiennent compte de l'encombrement du support pour fixation sur rail.

(2) 550 Vdc max per UL508

(3) Au-delà de 50°C appliquer un derating d'environ 3.75 W/°C

(4) La valeur du courant évocable de l'alimentateur dépend aussi de la résistance de ligne.

SCHEMA DE PRINCIPE

Article disponible jusqu'à écoulement de stock, sera remplacé par le modèle **CSG240...**

VERSION

Sortie 24 Vdc 10 A

Sortie 24 Vdc 10 A version redondante

Sortie 12...15 Vdc 20 A

Sortie 48 Vdc 5 A

Cod. XCSG10

CSG10

DONNÉES TECHNIQUES D'ENTRÉE

Tension nominale

Fréquence

Courant avec lout max. (Uin 400 / 500 Vac)

Courant d'appel au démarrage

Facteur de puissance

Fusible interne de protection

Protection extérieure sur la ligne AC

400-500 Vac (échelle 340...550 Vac / 507...770 Vdc) (2)

47...63 Hz

0.6 A / 0.42 A

< 50 A

> 0.7

disjoncteur magnétique : 3 X 6 A courbe C - fusibles: 3 XT 1.5 A

DONNÉES TECHNIQUES DE SORTIE

Tension de sortie

Plage de réglage de la tension de sortie

Courant de sortie permanent

Courant limite de surcharge

Courant de pointe en court circuit

Régulation de charge

Ondulation résiduelle et données nominales

Temps de "Hold up" au In (Uin 400 / 500 Vac)

Protection contre les court circuit, surcharges

Signalisation de l'état de fonctionnement

Seuil d'activation du contact d'alarme

Raccordement parallèle de puissance

Montage en parallèle redondant

24 Vdc

24...28 Vdc

10 A @ 50°C (3)

>20 A

—

< 1%

≤ 50 mVpp

>10 ms / >20 ms

hiccup au courant limite avec rétablissement automatique / rétablissement manuel / puissance constante / avec protection thermique DEL verte "DC OK"

—

possible

possible avec une diode de ORing externe

DONNÉES TECHNIQUES GÉNÉRALE

Rendement (Uin 400 / 500 Vac)

Puissance dissipée (Uin 400 / 500 Vac)

Température ambiante (service)

Isolément entrée / sortie

Tension isolation entrée / Terre

Tension isolation sortie / Terre

Norme de sécurité

Compatibilité électromagnétique

MTBF @ 25°C et données nominales

Catégorie de surtension / degré de pollution

Indice de protection

Mode de raccordement

Matériau du boîtier

Poids

Position de montage

>90% / >90%

27 W / 27 W

-20...+60°C, avec réduction en plus de 50°C / avec protection thermique (3)

3 kVac / 60 s sortie SELV

2 kVac / 60 s

0.5 kVac / 60 s

EN50178, EN61558, EN60950, IEC950, UL508

EN61000-6-2, EN61000-6-4, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-11

>500'000 h selon SN 29500 / >150'000 h selon MIL Std. HDBK 217F

II / 2

IP 20 IEC 529, EN60529

borniers à vis 4 et 6 mm² fixes

aluminium

1 Kg

vertical sur rail, écarté de 10 mm des composants limitrophes

ACCESSOIRES DE MONTAGE

Montage type rail DIN selon la norme IEC60715/TH35-7.5

Montage type rail DIN selon la norme IEC60715/G32

PR/3/AC, PR/3/AC/ZB, PR/3/AS, PR/3/AS/ZB