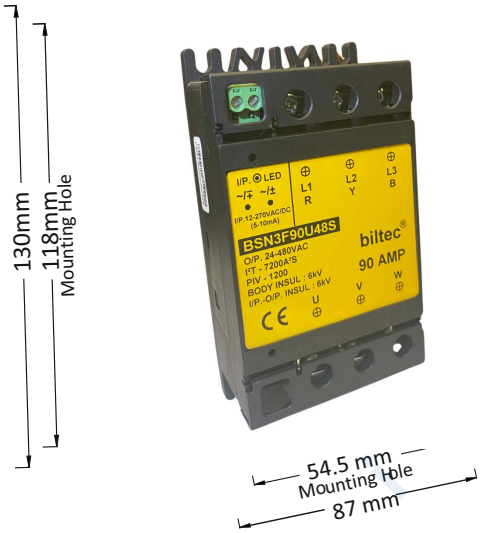
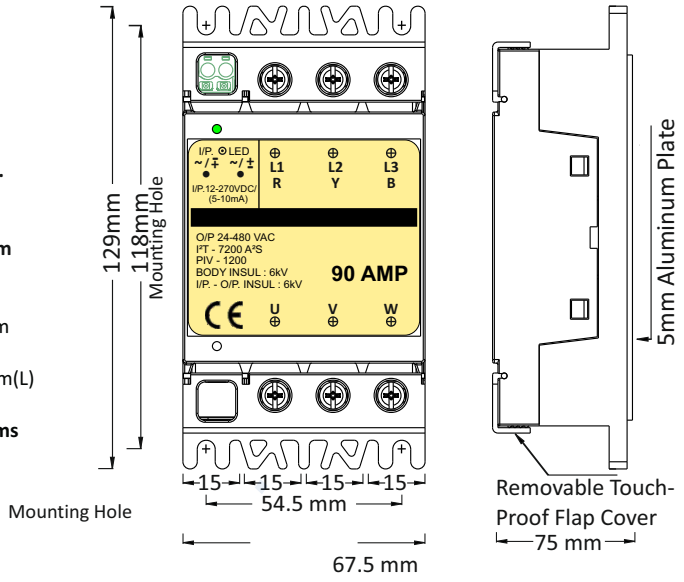
BSN3F90U48S 90A TRIFAZE SSR

3 PHASE UNIVERSAL TO AC



TYPE "A-130"
Model 301 - 1 Nos.
Current upto
93 Amp @ 40°C
with Din Rail 42mm
ΔT= 75°C
Surface Area:
2630mm² X 130mm
=341900 mm³
87mm(W) X 130mm(L)
X 80mm(H) + SSR
Weight : @ 920gms



- **Zero Voltage Turn-On .**
- **Rating from 25 Amp to 50 Amp @25°C 24-480 VAC.**
- **Short Circuit Current Rating As Per UL508A.**
- **Short Circuit Protected SSR up to 15 Amp per phase current by help of suitable "B" curve MCB.**
- **No need to use semiconductor Fuse due to short circuit protected SSR.**
- **With easy open & lock IP 20 protection Flaps on O/P Terminals.**
- **Fire Retardant Plastic as per UL94 VO GRADE.**
- **New improved SEMS Screw - Washers input & Output terminals.**
- **High resistance to aggressive chemicals and dust due to special Potting.**
- **Logic compatibility, Fast switching, Low coupling capacitance.**
- **No electromechanical or acoustical noise**
- **Long life cycle . Up to 10^{11} cycles**
- **No contact arcing, low electromagnetic interference, high surge capability**
- **SSRs can be provided as surface-mount technology, (SMT)parts, which means lower cost and easier SMT printed-circuit board manufacture**

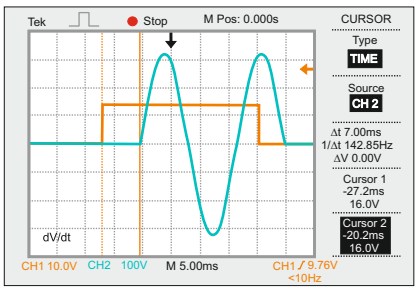
ORDERING FORMAT

	MODEL	XXX	X	X	X	XX	YYY	ZZ
			Z	U	A	48	90	02

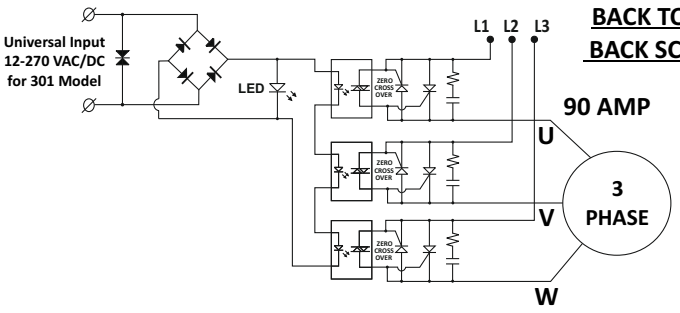
- BSN3F Model
- U : Universal Input
- A : AC Output
- Output Current Rating: 90
- Control Input: 02 : 12-270 VAC/VDC
- Output Voltage: 48: 24-480 VAC

EXAMPLES
BSN3F90U48S

ZERO CROSSOVER Waveform

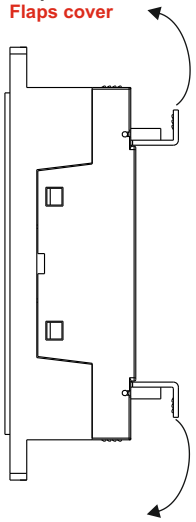


3 PH UNIVERSAL TO AC SSR BLOCK DIAGRAM



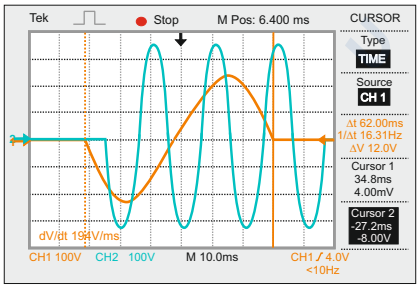
Easy Open & Lock Flap Cover

IP 20 protection
Flaps cover



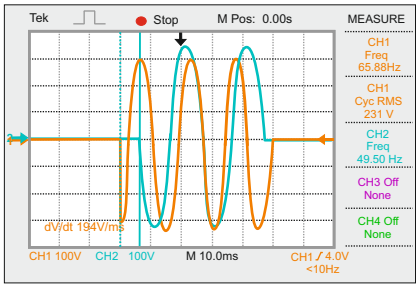
FIRE RETARDANT PLASTIC

Input Voltage Range: 12-270VAC/DC Input Frequency Practical Waveform



Input Voltage/Frequency : 160VAC/16 Hz
Output Voltage/Frequency : 230VAC/50 Hz

Input Voltage Range: 12-270VAC/DC Input Frequency Practical Waveform



Input Voltage/Frequency : 230VAC/65 Hz
Output Voltage/Frequency : 230VAC/50 Hz

General Specification

Max Barrier Layer Temperature (T_{max})	< 125 °C
Ambient Temperature Range (T_{amb})	0-85 °C
SSR Storage Temperature Range (T_{st})	-40°C to 80°C
Input Terminal Screw Torque Range	Ƭ = 0.5 N.m (Max.)
Output Terminal Screw Torque Range	Ƭ = 2.5 N.m (Max.)
Power Factor COSϕ @Max. Load @480VAC	> 0.55
Housing Material	UL-94 V0 Grade
Base Plate	Aluminium
SSR Weight	390 grams
Control Input Electrical Wire Size (Max.)	Up to 2.1 sq mm(14 AWG)
Power Output Electrical Wire Size (Max.)	Up to 25 sq mm(3 AWG)
Test Standards:	ROHS,IP20
Pending Approvals:	UL 508,VDE ,TUV ,CSA 22-2 IEC 60947-5-1:2016 IEC 62314:2006

Input Technical Specifications

Parameters	Unit	ZUA
Control Voltage Range	V	12-270 VAC / VDC
Input Frequency Range	Hz	15 - 65 Hz
Control Supply Current Consumption	mA	5-10 mA
Input Impedance (Current Regulator Circuit Impedance)	Ω	2 kΩ - 27 kΩ
Minimum Turn ON Voltage	VAC/VDC	11.8 VAC/VDC
Turn OFF Voltage	VAC/VDC	< 11.8 VAC/VDC
Control Input Status Indication	-	Green LED Indication
Maximum Turn ON Time	mS	≤20mS
Maximum Turn OFF Time	mS	≤20mS

Output Technical Specifications @ 25°C Unless Specified

Parameters	Symbol	Unit	90 Amp
Operating Voltage Range	V_{AC}	V_{RMS}	24-480 VAC B & B SCR
Operating Frequency Range	f	Hz	47-63 Hz
Peak Inverse Voltage	PIV	V_{PK}	1200
Max. Surge Voltage With Stand Capacity (<1 Second)	**V_{surge}**	**V_{RMS}**	**2700 V_{RMS} (3800 V_{PK})**
Rated Operational Current AC51a @ 20°C (Resistive Load)	**I_T**	**Amp**	**90**
Rated Operational Current AC53a @ 55°C (Inductive Load-Motor)	I_T	Amp	16
Maximum Load Short Circuit Protection Current @ 55°C	**I_{SC}**	**Amp**	**40**
"B" Curve D.P. MCB Rating for Short Circuit Protection	**MCB**	**Amp**	**40**
Maximum 3 Phase Motor Rating	hp	hp	7.5 hp
	kW	kW	5.59
NON Repetitive Surge Peak ON-State Current @ Rated V_{RRM} applied for 1/2 Cycle t=10 mS/t=8.33 mS (50 Hz/60 Hz)	I_{TSM} @ 50 Hz	Ap	1200
	I_{TSM} @ 60 Hz		1260
Max. I^2t for Fusing @ t=10 mS (50Hz)	I^2t	A^2s	7200
Max. I^2t for Fusing @ t=8.33 mS (60Hz)	I^2t	A^2s	6510
Max. Peak ON-state voltage Drop	V_{TM}	V_{RMS}	≤ 1.2
Minimum Isolation Resistance between Input Terminals (~1,~2) to Output Terminals (L1,L2,L3,U,V,W) @ 500 VDC	Ω	GΩ	50
Isolation Voltage Input Terminals (~1,~2) to Output Terminals (L1,L2,L3,U,V,W) for 1 Minute	V_{ISO}	kV	6
Isolation Voltage Input & Output Terminal (~1,~2,L1,L2,L3,U,V,W) to Body Isolation for 1 Minute	V_{ISO}	kV	6
Phase to Phase Isolation between terminals (L1,L2,L3) to (U,V,W) for 1 Minute	V_{ISO}	kV	4
Max. Rate of Rise OFF-State Voltage	dV/dt	V/µS	1000
Max. Rate of Rise OFF-State Current	di/dt	A/µS	150
Max. Peak Repetitive Forward OFF-State Voltage	V_{DRM}	V	1200
Max. Peak Repetitive Forward OFF-State current	I_{DRM}	mA	0.05
Max. Peak repetitive reverse off-state Voltage	V_{RRM}	V	1200
Max. Peak repetitive reverse off-state current	I_{RRM}	mA	0.05
Max. DC Gate Trigger Voltage	V_{GT}	V	1.5
Max. DC Gate Trigger Current	I_{GT}	mA	20
Turn OFF Time	t_q	µS	200
Maximum Latching Current	I_L	mA	200
Maximum Holding Current	I_H	mA	150
Thermal Resistance Rθ (Junction to case)	$R_{\theta(j-c)}$	°C/W	0.32
OFF State SSR Leakage Current @ Rated Voltage & Frequency (Snubber Leakage)	I_{leak}	mA	< 2 mA
SCCR Current Rating	I_{SCCR}	kA	10 kA
SSR Weight - 301 Model	W	gram	400

Digital Oscilloscope

SCR Parameter Tester

V_{TM} Tester

H.V. Insulation Break Down Tester

dv/dt Tester

I_{TSM} Tester