



Industrial Division



**Voltage - Current - Phase failure - Phase loss - Phase sequence -
Frequency - Phase shift and Phase unbalance conditions**

Electrical Safety Devices

The BENDER Line of Low Voltage Protective Relays continuously monitors the system supply for out-of-spec conditions involving:

- Over- and under voltage
- Over- and undercurrent
- Frequency
- Phase sequence,
- Phase unbalance
- Phase loss ... and more.

Bender is dedicated to become your Number One supplier.
Please call us at (800) 356- 4266 for technical assistance or
sales information.

VOLTAGE	Supply voltage	Adjustable Range	Cycles (Hz)	Art#
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SUA143 Under- or overvoltage 1Ph AC/DC



UC 24V	UC 10-30	40-400	B932802
UC 42V	UC 20-60	40-400	B932803
UC 110V	UC 50-150	40-400	B932801
UC 230V	UC 120-300	40-400	B932800

SUA145 Under- or overvoltage 1Ph AC/DC



UC 24V	UC 10-30	40-400	B93015508
UC 42V	UC 20-60	40-400	B93015501
UC 110V	UC 50-150	40-400	B93015502
UC 230V	UC 120-300	40-400	B93015503

*SUA145 incorporates time delay feature

SUD142 Under voltage 3Ph AC



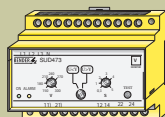
3AC110V	AC 80-120	50-60	B933559
3AC230V	AC 140-220	50-60	B933558
3AC400V	AC 260-420	50-60	B933557

SUD140 Undervoltage 3Ph N/AC



AC110V	AC 40-60	50-60	B933556
AC230V	AC 80-120	50-60	B933504
AC400V	AC 160-240	50-60	B933505

SUD472 Under- or overvoltage 3Ph AC



3AC208V	AC 150-300	50-60	B9331x1
3AC230V	AC 150-300	50-60	B933170
3AC400V	AC 270-520	50-60	B933702
3NAC208V	AC 80-170	50-60	B9331x2
3NAC230V	AC 80-170	50-60	B933171
3NAC400V	AC 150-300	50-60	B933703

SUR353 Undervoltage 3Ph AC



3AC208V	0.7-0.95 Un	50-60	B9336010
3AC230V	0.7-0.95 Un	50-60	B9331x3
3AC400V	0.7-0.95 Un	50-60	B933667
3AC440V	0.7-0.95 Un	50-60	B933648
3AC480V	0.7-0.95 Un	50-60	B933663
3AC660V	0.7-0.95 Un	50-60	B933001
3AC690V	0.7-0.95 Un	50-60	B933611

VOLTAGE	Supply voltage	Adjustable Range	Cycles (Hz)	Art#
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SUR358 Under- or overvoltage 3Ph AC



3AC208V	0.7-0.95 Un	50-60	B9331x4
3AC230V	0.7-0.95 Un	50-60	B9331x5
3AC400V	0.7-0.95 Un	50-60	B933701
3AC440V	0.7-0.95 Un	50-60	B933669
3AC480V	0.7-0.95 Un	50-60	B9336x6
3AC660V	0.7-0.95 Un	50-60	B933005
3AC690V	0.7-0.95 Un	50-60	B9330x7

AUR381 Under voltage / Phase failure / Phase loss (Unbalance)



3AC208V	0.7-0.95 Un	50-60	B935x8
3AC230V	0.7-0.95 Un	50-60	B935x9
3AC400V	0.7-0.95 Un	50-60	B935631
3AC440V	0.7-0.95 Un	50-60	B935630
3AC660V	0.7-0.95 Un	50-60	B935003
3AC690V	0.7-0.95 Un	50-60	B935068

SAD142 Phase failure / Phase loss 3Ph AC



3AC208V	5-15%	50-60	B935x10
3AC230V	5-15%	50-60	B935x11
3AC400V	5-15%	50-60	B935125
3AC440V	5-15%	50-60	B935646

SAD140 Phase failure & loss 3Ph N/AC



3NAC208V	5-15%	50-60	B935506
3NAC230V	5-15%	50-60	B935x12
3NAC400V	5-15%	50-60	B935124
3NAC440V	5-15%	50-60	B935510

SED140 Phase sequence & loss 3Ph AC



3NAC208V	65-75% Un	50-60	B925157
3NAC230	65-75% Un	50-60	B925156
3NAC400V	65-75% Un	50-60	B925104
3NAC440V	65-75% Un	50-60	B925612

Frequency	Supply voltage	Adjustable Range (Hz)	Cycles (Hz)	Art#
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SFE140 Frequency AC



AC120V	0.5-3	50-60	B925x13
AC208V	0.5-3	50-60	B925x14
AC230V	0.5-3	50-60	B925503
AC400V	0.5-3	50-60	B925504

VOLTAGE RELAY SECTION

CURRENT	Supply voltage	Adjustable Range (A)	Cycles (Hz)	Art#
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CSE140 Under current 1Ph AC



AC85-275V	0.1-1A	50-60	B942616
DC9.6-84V	0.5-5A	50-60	B942624
DC77-286V	0.5-5A	50-60	B942628
AC85-275V	0.5-5A	50-60	B942614
DC9.6-84V	1-10A	50-60	B942503
AC85-275V	1-10A	50-60	B942612

CSE141 Overcurrent 1 Ph AC



DC9.6-84V	0.1-1A	50-60	B942627
DC77-286V	0.1-1A	50-60	B942806
AC85-275V	0.1-1A	50-60	B942615
DC9.6-84V	0.5-5A	50-60	B942251
DC77-286V	0.5-5A	50-60	B942621
AC85-275V	0.5-5A	50-60	B942613
DC9.6-84V	1-10A	50-60	B942370
DC77-286V	1-10A	50-60	B942807
AC85-275V	1-10A	50-60	B942611

CSG140 Undercurrent 1 Ph DC



DC9.6-84V	6-60mV/50-500mV	B943611
DC77-286V	6-60mV/50-500mV	B943621
AC85-275V	6-60mV/50-500mV	B943608
DC9.6-84V	0.5-5mA/2-20mA	B943616
DC77-286V	0.5-5mA/2-20mA	B943625
AC85-275V	0.5-5mA/2-20mA	B943601
AC85-275V	0.1-1A	B943614
DC9.6-84V	0.5-5A	B943613
DC77-286V	0.5-5A	B943626
AC85-275V	0.5-5A	B943606
AC85-275V	1-10A	B943604

CSG141 Overcurrent 1 Ph DC



DC9.6-84V	6-60mV/50-500mV	B943251
DC77-286V	6-60mV/50-500mV	B943624
AC85-275V	6-60mV/50-500mV	B943607
DC9.6-84V	0.5-5mA/2-20mA	B943617
DC77-286V	0.5-5mA/2-20mA	B943612
AC85-275V	0.5-5mA/2-20mA	B943602
DC9.6-84V	0.5-5A	B943351
AC85-275V	0.5-5A	B943605
DC9.6-84V	1-10A	B943618
AC85-275V	1-10A	B943603

CURRENT	Supply voltage	Adjustable Range (A)	Cycles (Hz)	Art#
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CSD25. Undercurrent 3Ph AC



AC220V	0.1-1A	50-60	B942188
AC24V	0.5-5A	50-60	B942359
AC220V	0.5-5A	50-60	B942187
AC110V	1-10A	50-60	B942189
AC220V	1-10A	50-60	B942210

CSD2.. Overcurrent 3Ph AC



DC24V	0.1-1A	50-60	B942148
AC220V	0.1-1A	50-60	B942185
AC220V	0.5-5A	50-60	B942175
DC24V	1-10A	50-60	B942354
DC24V	1-10A	400	B942355
DC110V	1-10A	50-60	B942212
DC77-286V	1-10A	50-60	B942365
AC110V	1-10A	50-60	B942800
AC220V	1-10A	50-60	B942186
DC24V	0.1-1A	50-60	B942213
AC220V	0.1-1A	50-60	B942182
AC220V	0.5-5A	50-60	B942183
DC24V	01-10A	50-60	B942362
AC220V	01-10A	50-60	B942184

CT Current Transformers for Current relays

CTs are available in different sizes and ratios. Split-core, rectangular and special CTs are available as well.



CURRENT RELAY SECTION



Industrial Division

**Voltage - Current - Phase failure - Phase loss - Phase sequence -
Frequency - Phase shift and Phase unbalance conditions**

The BENDER Line of Low Voltage Protective Relays continuously monitors the system supply for out-of-spec conditions involving over- and under voltage / current and / frequency, phase sequence, unbalance, phase loss and more.

BENDER Inc.

700 Fox Chase
Coatesville, PA 19320

Toll free: (800) 356-4266

or 001 - from abroad (610) 594-8595

Fax: (610)383-7100

Please feel free to download
the relay data sheets and tables
at: www.benderrelay.com



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Ground Fault Monitoring devices
at: www.bender.org