

OnLine® 5S-Series Communication Line Protectors: Some face persistent system problems, despite their use of conventional communication line protectors. Others face performance expectations that allow zero tolerance for downtime. 5S-Series communication line protectors are specifically engineered to satisfy these demanding applications, whether analog or digital.

Ultimate assurance of system reliability

Leading telecommunications companies employ ONEAC OnLine Series communication line protectors in their installations for good reason. OnLine protectors provide greater assurance of PBX and Key system uptime and lower service costs than conventional protectors.

Eliminates harmful transients

System lockups, dropped calls, mis-dials, system memory loss, "no trouble found" service calls, service outages, shortened component life — these problems all result from high frequency interference. ONEAC OnLine Series protectors prevent these fast-edged transients from entering your system, yet allow lower frequency ring voltages and other desired signals to pass through unobstructed.

Balanced fail-safe protection

AC power crossings and induction problems can create an unsafe condition in either line of a twisted pair — tip or ring. Conventional line protectors address only one or the other. ONEAC's OnLine Series provides a complete, balanced fail-safe solution. Their unique design ensures that in the event either side fails, both tip and ring are simultaneously grounded. It's a critical extra margin of safety and protection for your system and your personnel.

Last longer on the job

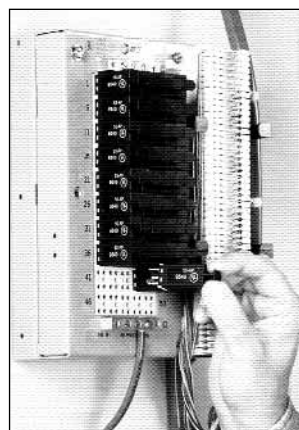
ONEAC communication line protectors feature a more robust design than others so they're better able to withstand current and voltage surges. They also feature self-resetting sneak current protection — which eliminates the cost and downtime of replacement due to nuisance failures.

Proven to reduce service costs

By removing electrical transients, ONEAC improves system reliability. Look at actual evidence — installers switching over to a protection scheme using OnLine protectors with ONEAC power conditioners report an over 50% reduction in total trouble calls; 83% fewer service calls due to hardware problems; 70% fewer system resets; and 43% fewer calls in which no trouble was found.



- **Robust/solid state overvoltage protection:** last longer in the field
- **Patented SwitchedFilter™ technology:** allows exceptionally low let-through performance for optimum protection of electronic systems
- **Self-resetting sneak current protection:** eliminates overcurrent problems without creating unnecessary fuse replacement
- **Balance fail-safe protection:** provides extra margin of safety
- **Convenient test points:** for faster, easier line testing
- **100 A surge impulse design:** provides longer lasting protection
- **Models available for analog, digital and DSL lines**
- **Safety approvals:** UL, cUL listed Primary (497), Telecordia GR974
- **5-year warranty:** your best assurance of product performance and reliability in the industry
- **Manufactured under ISO 9001:** assures consistent quality and performance
- **Free 24-hour technical support**



Easily mountable on standard 5-pin bases, the OnLine 5S-Series provides more complete and long-lasting protection than conventional communication line protectors.

OnLine 5S-Series Communication Line Protectors: Specifications

A variety of applications

ONEAC OnLine 5S-Series Communication Line Protectors can be used for analog and broadband, voice and data circuits, including T1, ADSL, HDSL, ISDN and high speed applications.

Application	Part No.	Color
Analog: Standard service —trunk lines, analog OPX stations with ring signal	5S-AP	Black
Digital: ISDN	5S-DP	Yellow
Digital: T1, HDSL	5S-DC* 5S-DCCP	Blue Blue
ADSL: Services with local analog	5S-AD* 5S-ADCP	Yellow Yellow
Special: Analog and digital services requiring special identification	5S-SP	Red

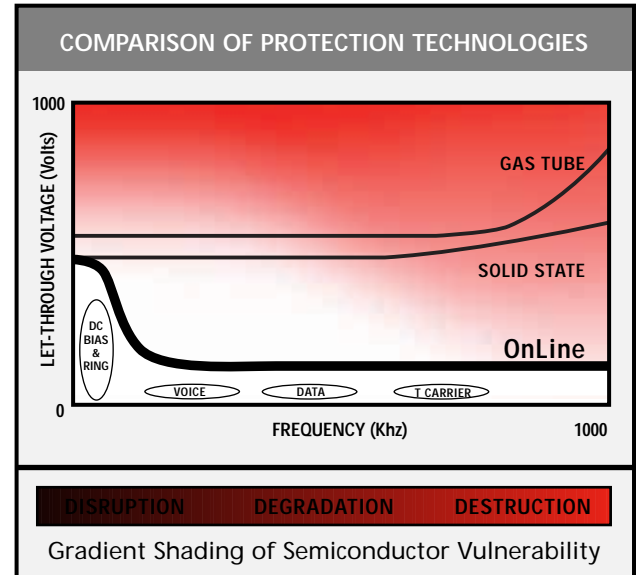
Digital OPX by vendor

Vendor	Part No.	Color
Toshiba 24 V (1pr)	5S-DSP36	Yellow
Toshiba 24 V (2 pr) *	5S-DSP36	Yellow
Samsung 24 V (1 pr)	5S-DSP36	Yellow
Samsung 24 V (2 pr, 12 V/pr)*	5S-DSP20	Yellow
Executone 24 V (2 pr, 12 V/pr)*	5S-DSP20	Yellow
Nortel 24 V (1 pr)	5S-DSP36	Yellow
ROLM/Siemens 24 V (1 pr)	5S-DSP36	Yellow
NEC 48 V (1 pr)	5S-DSP68	Yellow
Fuji 48 V (1 pr)	5S-DSP68	Yellow
AT&T 24 V (4 pr)*	5S-DSP36	Yellow
AT&T 48 V (4 pr)*	5S-DSP68	Yellow
Mitel 48 V (1 pr)	5S-DSP68	Yellow

* Require one OnLine 5-Series protector per pair.

ONEAC breaks the "Ring Voltage Barrier"

Conventional protectors (gas tube or solid state) are designed to clamp above the operating DC bias and the ring voltage level. The OnLine's ability to differentiate signals based on frequency permits the desired signals to pass while preventing transients from damaging semiconductor-based electronics.



Part Number	5S-AD* 5S-ADCP	5S-AP	5S-DC* 5S-DCCP	5S-DP	5S-SP	5S-DSP20	5S-DSP36	5S-DSP68
Impulse Voltage Performance 10/1000µs, 1500V, 100A Impulses:								
Let-through voltage - line to earth (typical/max.)	320 V/370 V	320 V/370 V	320 V/370 V	78 V/95 V	320 V/370 V	55 V/65 V	65 V/75 V	100 V/110 V
Let-through voltage - line to line (typical/max.)	180 V/230 V	150 V/250 V	150 V/195 V	70 V/105 V	150 V/250 V	55 V/65 V	65 V/75 V	100 V/110 V
DC Breakdown Voltage (0-1 kV @ 100 V/s):								
Line to earth (typical/range)	320 V/270-370 V	320 V/270-370 V	320 V/270-370 V	78 V/60-95 V	320 V/270-370 V	20 V/18-23 V	36 V/32-42 V	68 V/64-74 V
Line to line (typical/range)	320 V/270-370 V	640 V/540-740 V	320 V/270-370 V	155 V/120-190 V	640 V/540-740 V	20 V/18-23 V	36 V/32-42 V	68 V/64-74 V
Module Loop Resistance @ 25°C (each leg)	3 Ω min, 6 Ω max	12 Ω min, 18 Ω max	3 Ω min, 6 Ω max	3 Ω min, 6 Ω max	12 Ω min, 18 Ω max	≤1 Ω	≤1 Ω	≤1 Ω
Holding Current	≥260 mA (5S-AD) ≥150 mA (5S-ADCP)	≥150 mA	≥260 mA (5S-DC) ≥150 mA (5S-DCCP)	≥150 mA	≥150 mA	—	—	—
Response Time	<1 ns	<1 ns	<1 ns	<1 ns	<1 ns	<5 ns	<5 ns	<5 ns
Insulation Resistance	>100 MΩ	>100 MΩ	>100 MΩ	>100 MΩ	>100 MΩ	>1 MΩ	>1 MΩ	>1 MΩ
Capacitance @ 50 VDC, 1 VAC, 10 kHz - 10 MHz								
Line to earth	<200 pf	<200 pf	<200 pf	<200 pf	<200 pf	<75 pf**	<75 pf**	<75 pf
Line to line	<200 pf	<200 pf	<200 pf	<200 pf	<200 pf	<75 pf**	<75 pf**	<75 pf
On State Voltage with 1 Amp RMS	<5 V	<5 V	<5 V	<5 V	<5 V	—	—	—
Overcurrent Protection (Sneak Current) @ 25° C	300 mA (resettable)	300 mA (resettable)	300 mA (resettable)	300 mA (resettable)	300 mA (resettable)	1 A	1 A	1 A
Color Code	yellow	black	blue	yellow	red	yellow	yellow	yellow
Test Points	yes	yes	yes	yes	yes	—	—	—

* Meets test requirements for Telecordia 974.

** Capacitance @ 0 VDC, 1 VAC, 10 kHz - 10 MHz

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