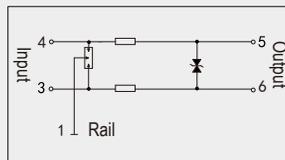


5V Voltage System SPD

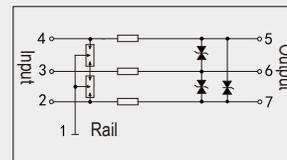
Product overview

PHL-S series SPD is mainly used to protect the field devices such as transmitters, switches, frequency signals, communication devices, TC, RTD, and I/O, DCS, PLC etc. in control room, which are connected by two-wire and three-wire systems, from damage because of lightning surge impulse voltage or operating overvoltage. The main features are:

1. With top display of status alarm
2. Ultra-thin with thickness of 7mm, saving space
3. High bandwidth, low insertion loss, suitable for a variety of signals



PHL-S5-L2

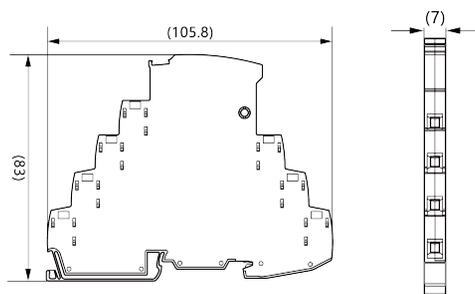


PHL-S5-L3

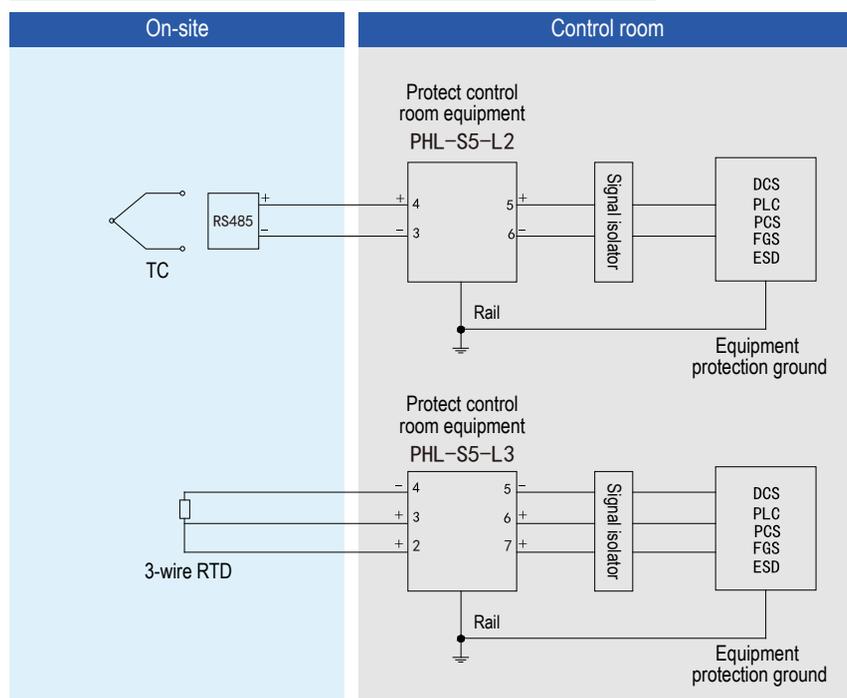
Technical data

Product type	Two-wire		Three-wire	
	PHL-S5-L2.5kA	PHL-S5-L2.10kA	PHL-S5-L3.5kA	PHL-S5-L3.10kA
Nominal discharge current I_n (8 / 20 μ s)	5kA	10kA	5kA	10kA
The maximum discharge current (8 / 20 μ s)	10kA	20kA	10kA	20kA
Lightning surge current I_{imp} (10 / 350 μ s)	0.5kA	2kA	0.5kA	2kA
Total lightning surge current (10 / 350 μ s)	1kA	4kA	1.5kA	6kA
Rated operating voltage U_n		5V		5V
Maximum operating voltage U_c		6V		6V
Nominal operating current I_L		1A		1A
Protection voltage U_p (8 / 20 μ s) line-to-line / line to ground		40V / 600V		40V / 600V
Protection voltage U_p (1kV / μ s) line to line / line to ground		20V / 600V		20V / 600V
Bandwidth (-0.5dB)		10MHz		10MHz
Response time		1ns		1ns
Series resistance (per line)		1 Ω		1 Ω
Leakage current		< 10 μ A		< 10 μ A
Degrees of protection provided by enclosure (in line with IEC 60529)		IP 20		IP 20
Housing material / Flame retardant grade (the UL94)		PC / V0		PC / V0
Test standard		GB/T 18802.21 / IEC61643-21		GB/T 18802.21 / IEC61643-21
Working temperature range		-40~+80 C		-40~+80 C

Overall dimension



Schematic diagram

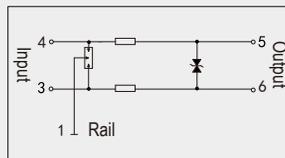


24V Voltage System SPD

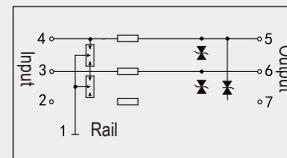
Product overview

PHL-S series SPD is mainly used to protect the field devices such as transmitters, switches, frequency signals, communication devices, TC, RTD, and I/O, DCS, PLC etc. in control room, which are connected by two-wire and three-wire systems, from damage because of lightning surge impulse voltage or operating overvoltage. The main features are:

1. With top display of status alarm
2. Ultra-thin with thickness of 7mm, saving space
3. High bandwidth, low insertion loss, suitable for a variety of signals



PHL-S24-L2

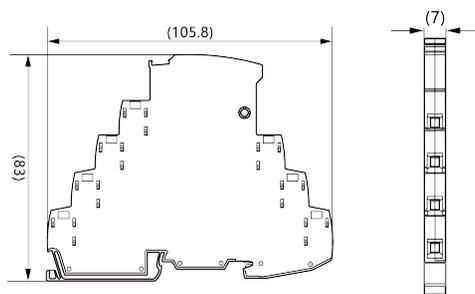


PHL-S24-L3

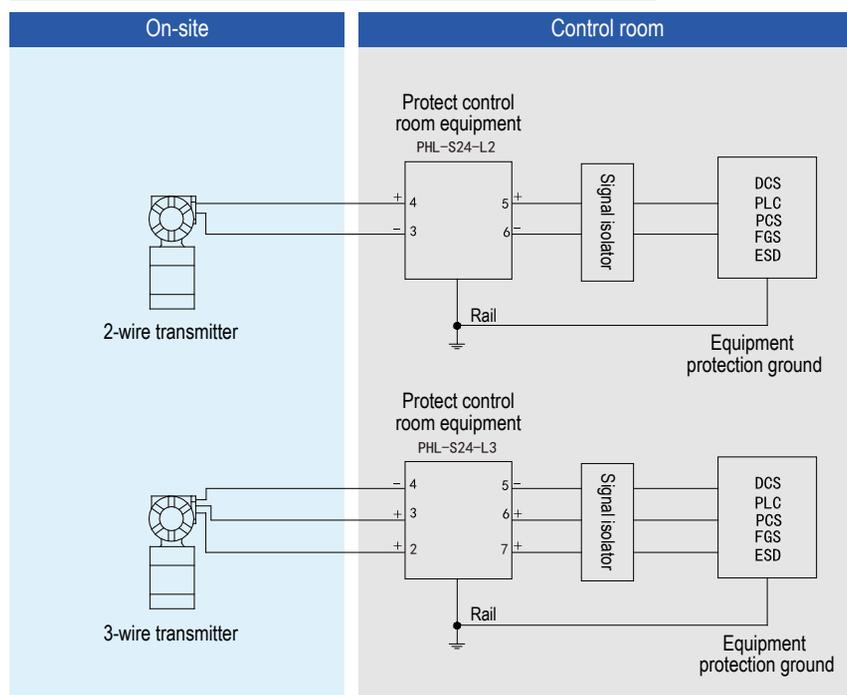
Technical data

Product type	Two-wire		Three-wire	
	PHL-S24-L2.5kA	PHL-S24-L2.10kA	PHL-S24-L3.5kA	PHL-S24-L3.10kA
Nominal discharge current I_n (8 / 20 μ s)	5kA	10kA	5kA	10kA
The maximum discharge current (8 / 20 μ s)	10kA	20kA	10kA	20kA
Lightning surge current I_{imp} (10 / 350 μ s)	0.5kA	2kA	0.5kA	2kA
Total lightning surge current (10 / 350 μ s)	1kA	4kA	1.5kA	6kA
Rated operating voltage U_n		24V		24V
Maximum operating voltage U_c		32V		32V
Nominal operating current I_L		1A		1A
Protection voltage U_p (8 / 20 μ s) line-to-line / line to ground		60V / 600V		60V / 600V
Protection voltage U_p (1kV / μ s) line to line / line to ground		60V / 600V		60V / 600V
Bandwidth (-0.5dB)		10MHz		10MHz
Response time		1ns		1ns
Series resistance (per line)		1 Ω		1 Ω
Leakage current		< 10 μ A		< 10 μ A
Degrees of protection provided by enclosure (in line with IEC 60529)		IP 20		IP 20
Housing material / Flame retardant grade (the UL94)		PC / V0		PC / V0
Test standard		GB/T 18802.21 / IEC61643-21		GB/T 18802.21 / IEC61643-21
Working temperature range		-40~+80 C		-40~+80 C

Overall dimension



Schematic diagram

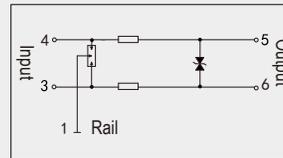


5V voltage system (Intrinsically safe SPD)

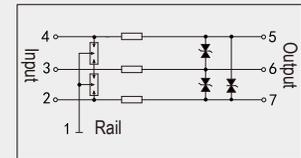
Product overview

PHL-S series SPD is mainly used to protect the field devices such as transmitters, switches, frequency signals, communication devices, TC, RTD, and I/O, DCS, PLC etc. in control room, which are connected by two-wire and three-wire systems, from damage because of lightning surge impulse voltage or operating overvoltage. The main features are:

1. With top display of status alarm
2. Ultra-thin with thickness of 7mm, saving space
3. High bandwidth, low insertion loss, suitable for a variety of signals



PHL-S5-L2-Ex

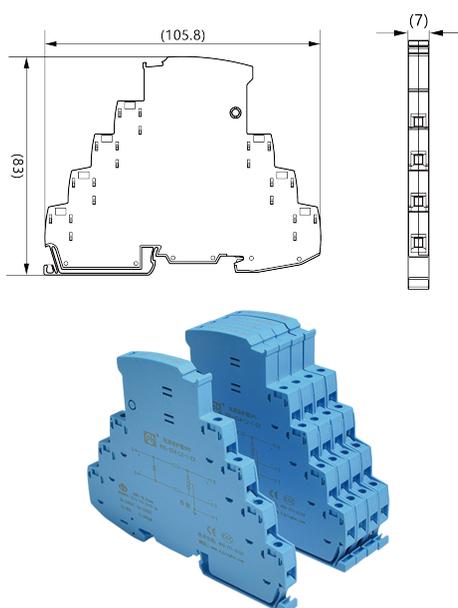


PHL-S5-L3-Ex

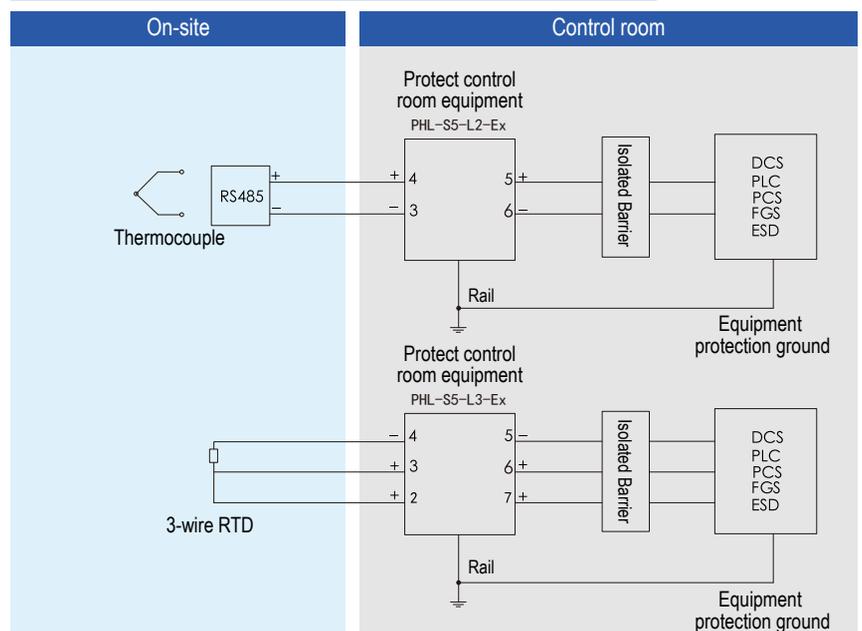
Technical data

Product type	Two-wire		Three-wire	
	PHL-S5-L2-Ex.5kA	PHL-S5-L2-Ex.10kA	PHL-S5-L3-Ex.5kA	PHL-S5-L3-Ex.10kA
Nominal discharge current I_n (8 / 20 μ s)	5kA	10kA	5kA	10kA
The maximum discharge current (8 / 20 μ s)	10kA	20kA	10kA	20kA
Lightning surge current I_{imp} (10 / 350 μ s)	0.5kA	2kA	0.5kA	2kA
Total lightning surge current (10 / 350 μ s)	1kA	4kA	1.5kA	6kA
Rated operating voltage U_n		5V		5V
Maximum operating voltage U_c		6V		6V
Nominal operating current I_L		600mA		600mA
Protection voltage U_p (8 / 20 μ s) line-to-line / line to ground		40V / 600V		40V / 600V
Protection voltage U_p (1kV / μ s) line to line / line to ground		20V / 600V		20V / 600V
Bandwidth (-0.5dB)		10MHz		10MHz
Response time		1ns		1ns
Series resistance (per line)		1 Ω		1 Ω
Leakage current		< 10 μ A		< 10 μ A
Degrees of protection provided by enclosure (in line with IEC 60529)		IP 20		IP 20
Housing material / Flame retardant grade (the UL94)		PC / V0		PC / V0
Test standard		GB/T 18802.21 / IEC61643-21		GB/T 18802.21 / IEC61643-21
Explosion-proof certifications		EX ia II C T4-T6 Ga		EX ia II C T4-T6 Ga
Working temperature range		-40~+80 $^{\circ}$ C		-40~+80 $^{\circ}$ C

Overall dimension



Schematic diagram

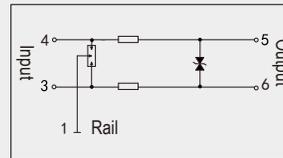


24V Voltage System (Intrinsically Safe SPD)

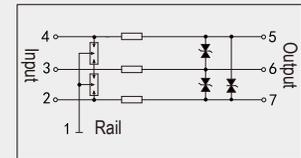
Product overview

PHL-S series SPD is mainly used to protect the field devices such as transmitters, switches, frequency signals, communication devices, TC, RTD, and I/O, DCS, PLC etc. in control room, which are connected by two-wire and three-wire systems, from damage because of lightning surge impulse voltage or operating overvoltage. The main features are:

1. With top display of status alarm
2. Ultra-thin with thickness of 7mm, saving space
3. High bandwidth, low insertion loss, suitable for a variety of signals



PHL-S24-L2-Ex

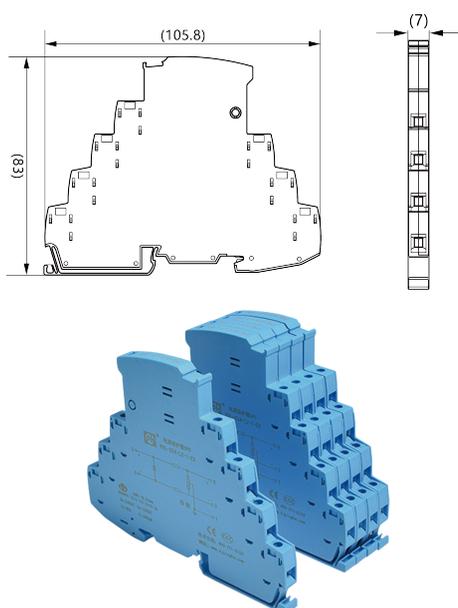


PHL-S24-L3-Ex

Technical data

Product type	Two-wire		Three-wire	
	PHL-S24-L2-Ex.5kA	PHL-S24-L2-Ex.10kA	PHL-S24-L3-Ex.5kA	PHL-S24-L3-Ex.10kA
Nominal discharge current I_n (8 / 20 μ s)	5kA	10kA	5kA	10kA
The maximum discharge current (8 / 20 μ s)	10kA	20kA	10kA	20kA
Lightning surge current I_{imp} (10 / 350 μ s)	0.5kA	2kA	0.5kA	2kA
Total lightning surge current (10 / 350 μ s)	1kA	4kA	1.5kA	6kA
Rated operating voltage U_n		24V		24V
Maximum operating voltage U_c		32V		32V
Nominal operating current I_L		600mA		600mA
Protection voltage U_p (8 / 20 μ s) line-to-line / line to ground		60V / 600V		60V / 600V
Protection voltage U_p (1KV / μ s) line to line / line to ground		60V / 600V		60V / 600V
Bandwidth (-0.5dB)		10MHz		10MHz
Response time		1ns		1ns
Series resistance (per line)		1 Ω		1 Ω
Leakage current		< 10 μ A		< 10 μ A
Degrees of protection provided by enclosure (in line with IEC 60529)		IP 20		IP 20
Housing material / Flame retardant grade (the UL94)		PC / V0		PC / V0
Test standard		GB/T 18802.21 / IEC61643-21		GB/T 18802.21 / IEC61643-21
Explosion-proof certifications		EX ia II C T4-T6 Ga		EX ia II C T4-T6 Ga
Working temperature range		-40~+80 $^{\circ}$ C		-40~+80 $^{\circ}$ C

Overall dimension



Schematic diagram

