

# DIN Mounted Surge Protective Device

AC/DC Power

Low Voltage / Data

Network Communications



## Transient Protection Systems

- AC Power protection for single and three phase systems.
- High and low Analogue I/O
- Digital I/O
- 2, 3, and 4 Wire Transmitters and Sensors
- Factory automation of bus systems supported up to 100MB



# AC / DC Power Surge Protective Devices



## General Description

Industrial computers, PLCs, and sensitive instrumentation are at the heart of today's automation systems. Maintaining reliability and uptime are essential to the processes running on the factory floor. Semiconductor technology has advanced over the last several decades increasing equipments sensitivity to transients. The APT DIN mounted surge protection makes it easy to embed state of the art transient protection into these automated processes and provide protection for these sensitive circuits. The APT DIN series suppressors use large block MOVs with a patented thermal detection circuit that eliminates the need for separate overcurrent fusing allowing for a smaller footprint where conserving space is very important.

## Features

- Built in Thermal Protection
- 200kA SCCR
- DIN Rail and Direct Mount
- Fingersafe
- Visual Indicator (Optional Remote Indicator)

## Applications

- AC/DC Power distribution
- PLC Applications
- HVAC Controls
- Security Systems
- Controls
- Medical Equipment
- Motor Controls and Starter Systems
- Parking Lot & Interstate Lighting

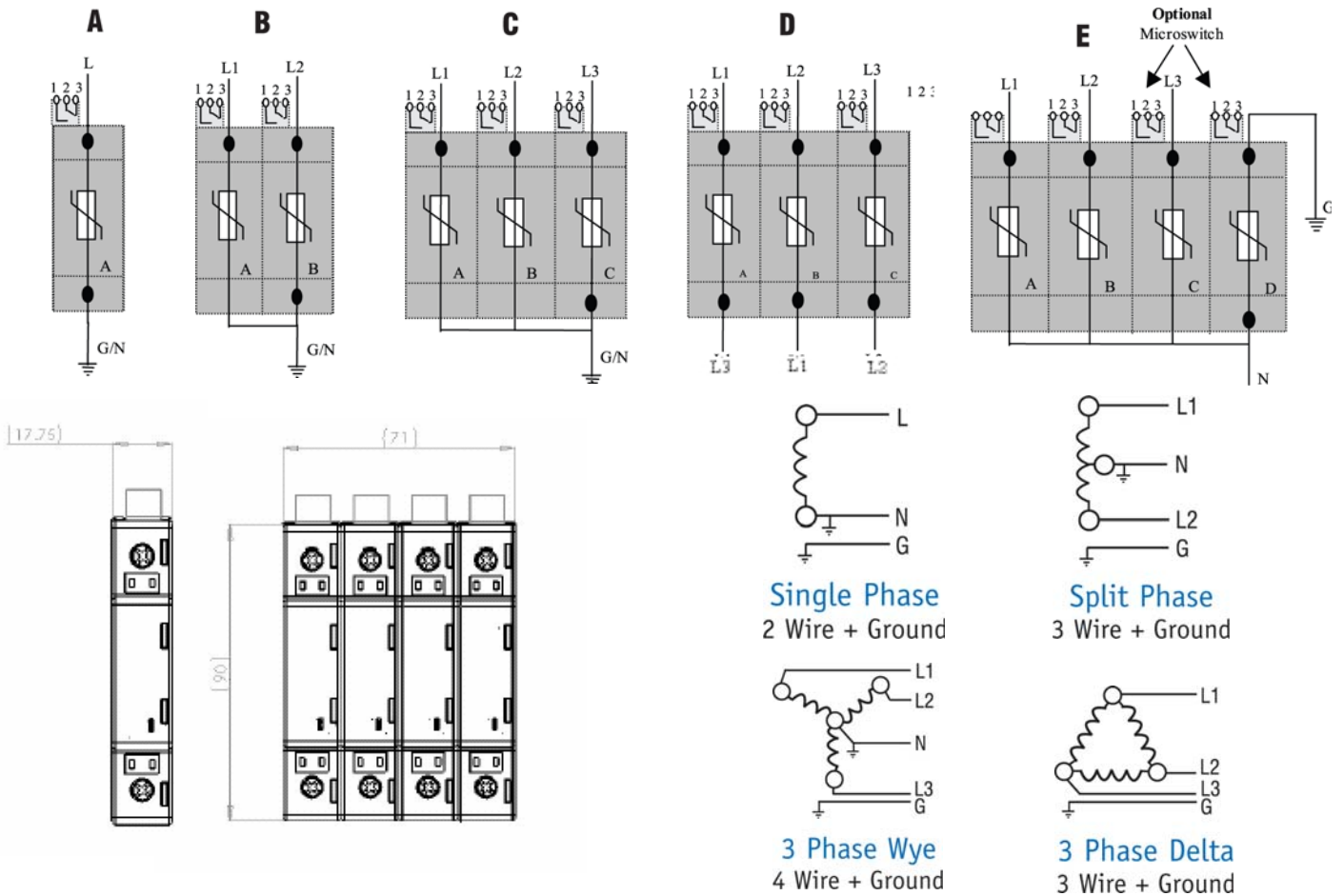
## Specifications

- MCOV 150 –550
- 200kA Interrupt Rating
- 50kA 8/20 usec surge capacity per mode
- 100kA 8/20 usec surge capacity per phase
- Surge Life @ 3kA 8/20 usec is 5000 events
- Surge Life @ 10kA 8/20 usec is 1000 events
- Operating and Storage Temp is –25C to +60 C



## Approvals

- UL 1449, cuL Third Edition
- IEC 61643
- NEMA LS1



APT# Add "M" to part number for dry contact option	Description	MCOV L-G	N-G	Figure
D127V1P	120V Single Phase	180V		A
D120V1P	120V Single Phase	150V		A
D230V1P	230V Single Phase	270V		A
D277V1P	277V Single Phase	320V		A
D127V2P	120/240V Split Phase	180V		B
D120V2P	120/240V Split Phase	150V		B
D480V2P	240/480V Split Phase	270V		B
D120V3PNG	120/208 3-Phase Wye	360V	YES	E
D127V3P	120/208 3-Phase Wye	180V	NO	C
D120V3P	120/208 3-Phase Wye	150V	NO	C
D277V3PNG	277/480 3-Phase Wye	500V	YES	E
D277V3P	277/480 3-Phase Wye	320V	NO	C
D347V3PNG	347/600 3-Phase Wye	690V	YES	E
D347V3P	347/600 3-Phase Wye	420V	NO	C
D240V3PD	240V 3-Phase Delta	N/A		D
D240V3PDG	240V 3-Phase Delta	270V		C
D480V3PD	480V 3-Phase Delta	N/A		D
D480V3PDG	480V 3-Phase Delta	550V		C

# Low Voltage / Data / Communication Surge Protective Devices



## General Description

Data and I/O are often overlooked as sources of problems for automation processes. Many times damaging transients can come in through the “back door” and disrupt a control system or damage a critical sensor. Most industrial control hardware does not come with transient protection it has to be added as part of the total power protection strategy. The APT DIN mounted surge protective devices use hybrid circuitry consisting of fast acting silicon avalanche diodes (SAD), high powered current handling Gas discharge Tubes (GDT), and MOVs with series de-coupling elements. Exceptionally high packing densities are achieved with the unique 12MM wide DIN modules capable of handling 2 four wire Circuits in each module.

## Features

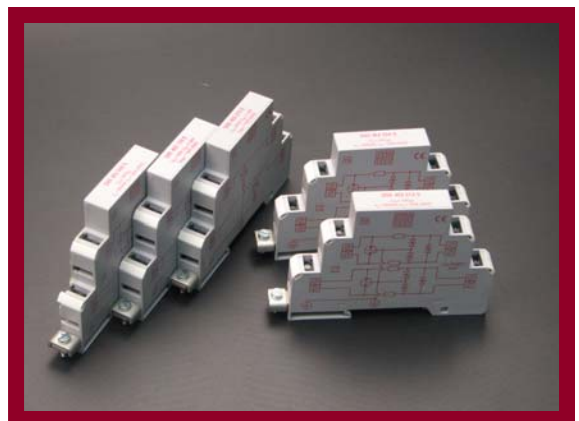
- Double density packaging for up to 4 wire protection per module.
- Quick Mount grounding foot
- 10kA 8/20 usec
- Range of voltages to handle all process I/O applications
- High bandwidth low resistance, RTD and 3 wire transmitter versions available
- AC or DC
- Reliable Hybrid circuitry

## Applications

- Analog Inputs—2 wire transmitters, 4-20mA
- Analog Inputs—RTD
- Analog Outputs—controller outputs (I/P converters)
- Digital input switches
- Digital outputs—Alarms, solenoids, valves
- Communication systems—RS232, RS422, RS485
- Bus Powered systems—Modbus, Profibus, fieldbus Data Highway etc. etc.

## Approvals

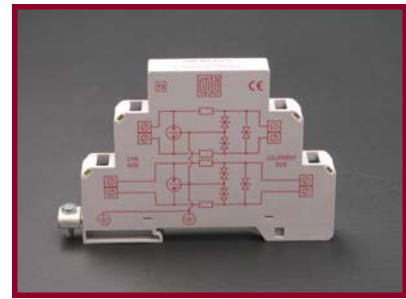
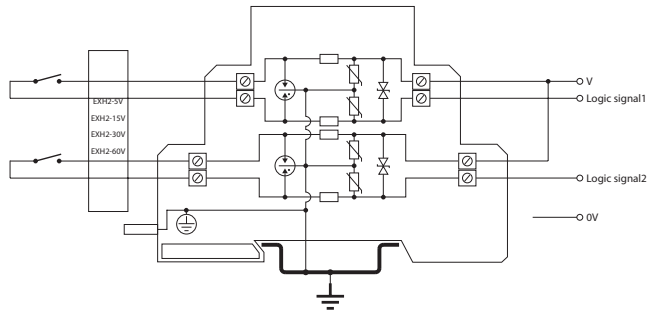
- UL 1449, cuL Third Edition
- IEC 61643
- NEMA LS1



	D60401-XXXX						D60301-XXXX						D60301-001T				D60401-XXXX					
	005S	012S	024S	048S	060S	005S	012S	024S	048S	060S	005S	012S	024S	048S	060S	005B	012B	024B	048B	060B		
Nominal Voltage (Vdc)	5	12	24	48	60	5	12	24	48	60	5	12	24	48	60	5	12	24	48	60		
Nominal Voltage (Vac)	4	8	17	34	42	4	8	17	34	42	4	8	17	34	42	4	8	17	34	42		
Nominal Current (In) (kA)	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10		
Category A, B, C, C3	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Wires Protected	2, 4	2, 4	2, 4	2, 4	2, 4	3	3	3	3	3	3	3	3	3	2, 4	2, 4	2, 4	2, 4	2, 4			
Peak Current Rating (kA / mode)	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20			
Max. Discharge R (kA @ isn)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
Max. Lightning Pulse (10 / 350µs)	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
Transverse Capacitance (pF)	500	500	500	500	500	500	500	500	500	500	500	500	500	500	30	30	30	30	30			
Series Resistance (Ω/Circuit)	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	.5	1	1	1	1	1			
Max. Leakage Current (µA)	500	5	5	5	5	500	5	5	5	5	500	5	5	5	500	5	5	5	5			
Max. Continuous Voltage (Vdc)	7	15	28	52	64	7	15	28	52	64	7	15	28	52	7	15	28	52	64			
Voltage Protect Level (Up@1kV)	<12	<18	<30	<55	<75	<12	<18	<30	<55	<75	<12	<18	<30	<55	<12	<18	<30	<55	<75			
Bandwidth Frequency (mHz)	3	3	3	3	3	3	3	3	3	3	3	3	3	3	35	35	35	35	35			
-40°C to +80°C (work/store)																						
5 to 95% Condensing	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
UL 94-VO Rating	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
12mm T-Section DIN Rail	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
<b>Applications</b>																						
2 wire Signal & Transmit	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
4 wire Signal & Transmit	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
3 wire Signal & Transmit						•	•	•	•	•	•	•	•	•								
3 wire RTD Device						•																
Modbus/AB Data Highway																						
ModbusPlus/RS232/RS485																		•				
RS422/423/485																						
Field/Profibus/DP																			•			
<b>Approvals</b>																						
IEC 61643-21:2001 Compliance	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
UL 497 B / CSA	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			
UL 497 A / CSA																						



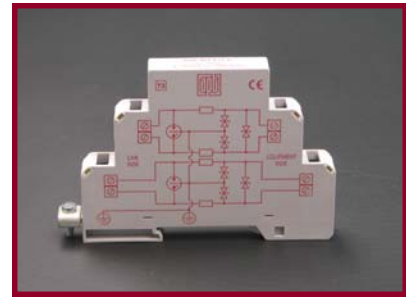
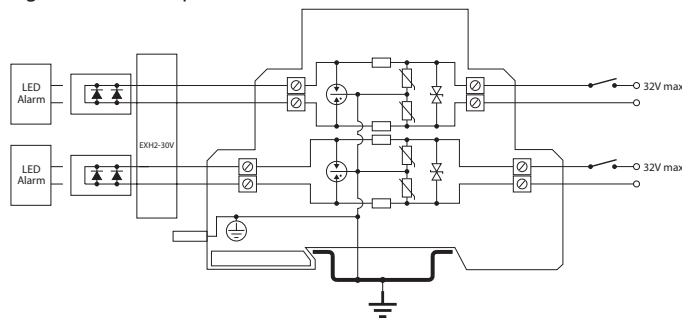
Digital (on/off) inputs Switches



**Part Number**

- 60401-005S
- 60401-012S
- 60401-024S
- 60401-048S
- 60401-060S

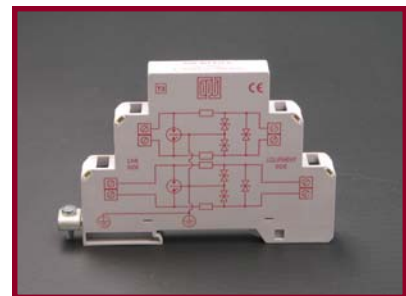
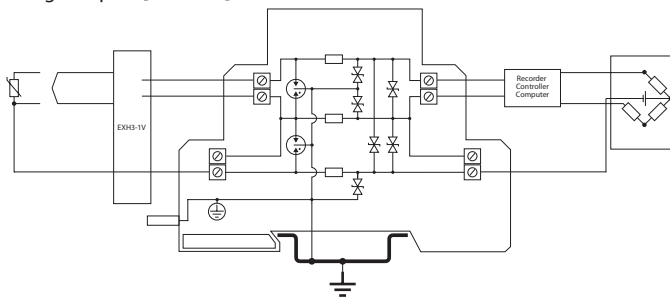
Digital (on/off) outputs Alarms, LEDs, solenoid valves, etc.



**Part Number**

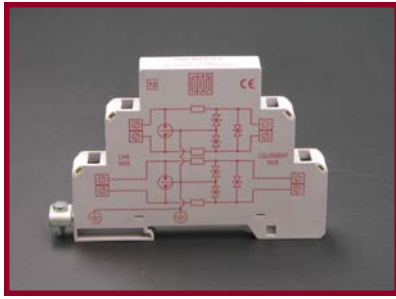
- 60401-005S
- 60401-012S
- 60401-024S
- 60401-048S
- 60401-060S

Analogue inputs [low level] RTDs

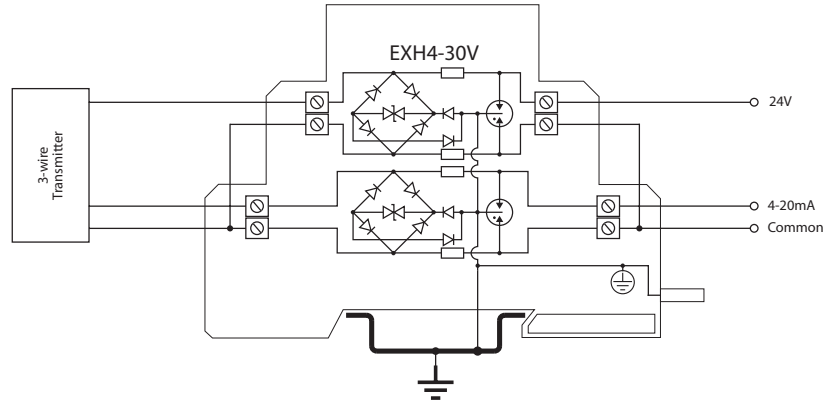


**Part Number**

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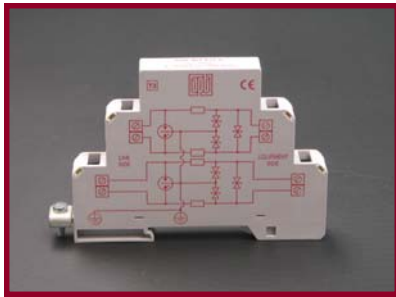


### 3-wire transmitters or sensors

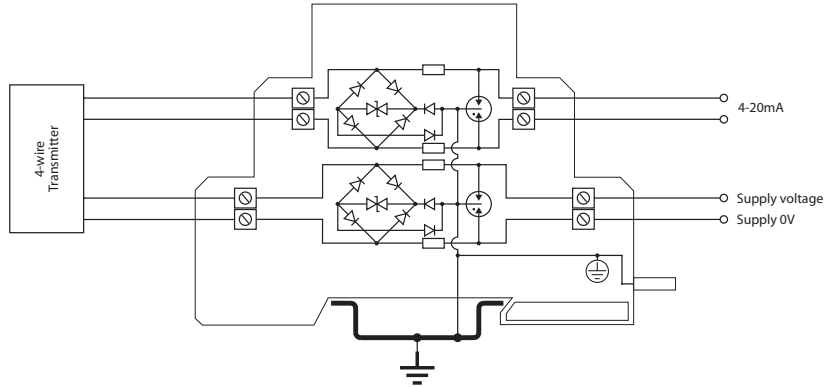


**Part Number**

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- 60301-005S
- 60301-012S
- 60301-024S
- 60301-048S

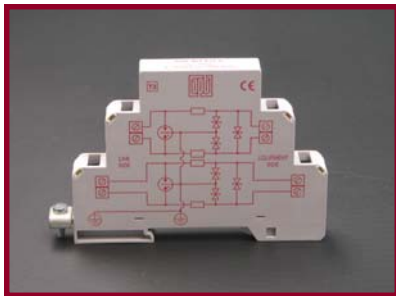


### 4-wire transmitters or sensors Flow meters, level detectors, etc.

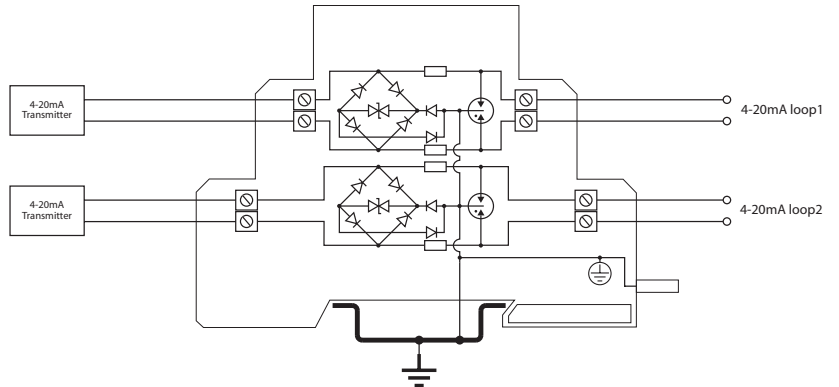


**Part Number**

- 60401-005S
- 60401-012S
- 60401-024S
- 60401-048S
- 60401-060S



### 2-wire transmitters or sensors 2 wire transmitters, 4-20mA, conventional and smart



**Part Number**

- 60401-005B
- 60401-012B
- 60401-024B
- 60401-048B
- 60401-060B

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