

Overvoltage Protection ProTec T2-ADV 1+0

Class II • Type 2 • Type 1CA • Open Type 1 SPD Listed



Location of Use: Sub-Distribution Boards
 Network Systems: TN-S, TN-C, TT (only L-N)
 Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T2-ADV-xxx-1+0(-R) & ProTec T2-ADV-xxx-1+0(-US)(-R)

		75	150	300	350	480
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	U_c	75V	150V	300V	350V	480V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA
Voltage Protection Level	U_p	600V	1000V	1300V	1700V	2000V
Response Time	t_A	< 25ns				
Overcurrent Protection (max)		160A gG				
Short-Circuit Current Rating (AC)	I_{SCCR}	50kA				
TOV Withstand 5s	U_T	114V	229V	337V	403V	581V
TOV 120min	U_T	114V	229V	442V	528V	762V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V
Voltage Protection Rating	VPR	400V	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	200kA	200kA

Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	400V	700V	1000V	1300V	1600V
Overcurrent Protection (min)		80A gG				

Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100kA				
Overcurrent Protection (max)		160A gG				

Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]				
Permissible Operating Humidity	RH	5%...95%				
Altitude (max)		13123 ft [4000m]				
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1499 [4.5 Nm]				
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449				
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green Flag / Not Green Flag				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A				
RC Conductor Cross Section (max)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]				

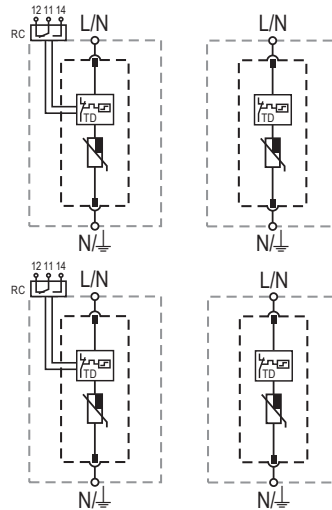
Internal Configuration

Legend

L	Line Conductor Terminal
⏏	PE/G Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TD	Thermal Disconnect

UL Listed Products

UL Recognized Products



ProTec T2-ADV-xxx-1+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	75	150	300	350	480
ProTec T2-ADV-xxx-1+0	59.0208	59.0210	59.0212	59.0214	59.0216
ProTec T2-ADV-xxx-1+0-R (with remote contacts)	59.0209	59.0211	59.0213	59.0215	59.0217
ProTec T2-ADV-xxx-P (plug)	59.0202	59.0203	59.0204	59.0205	59.0206

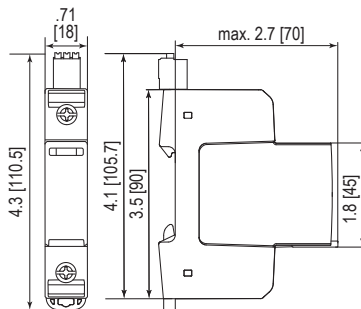
ProTec T2-ADV-xxx-1+0-US(-R)

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	75	150	300	350	480
ProTec T2-ADV-xxx-1+0-US	59.B135	59.B137	59.B139	59.B141	59.B143
ProTec T2-ADV-xxx-1+0-US-R (with remote contacts)	59.B136	59.B138	59.B140	59.B142	59.B144
ProTec T2-ADV-xxx-P (plug)	59.0202	59.0203	59.0204	59.0205	59.0206

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-ADV-xxx-1+0	75	150	300	350	480
Weight					
pounds	.266	.275	.291	.302	.304
grams	121	125	132	137	144

ProTec T2-ADV-xxx-1+0-R

Weight					
pounds	.283	.291	.306	.317	.328
grams	128	132	139	144	149

Complete Unit UL Listed Products

ProTec T2-ADV-xxx-1+0-US	75	150	300	350	480
Weight					
pounds	.266	.275	.291	.302	.304
grams	121	125	132	137	144

ProTec T2-ADV-xxx-1+0-US-R

Weight					
pounds	.283	.291	.306	.317	.328
grams	128	132	139	144	149

DIN 43880 Dimension

1 TE / .71" [18]

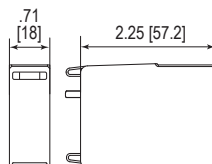
Packaging Dimensions (HxWxL)

4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity

12 Units

Spare Plug



Single Unit Dimensions & Packaging

ProTec T2-ADV-xxx-P	75	150	300	350	480
Weight					
pounds	.120	.127	.143	.154	.165
grams	54	58	65	70	75

DIN 43880 Dimension

1 TE / .71" [18]

Packaging Dimensions (HxWxL)

3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity

24 Units

Raycap

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G29-00-412-OTL 221115

Overvoltage Protection ProTec T2-ADV 2+0

Class II • Type 2 • Type 1CA • Open Type 1 SPD Listed



Location of Use: Sub-Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

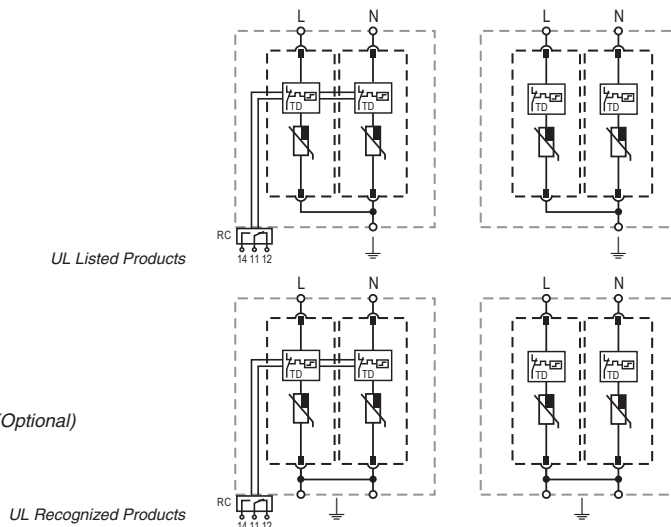
ProTec T2-ADV-xxx-2+0(-R) & ProTec T2-ADV-xxx-2+0(-US)(-R)

ProTec T2-ADV-xxx-2+0(-R) & ProTec T2-ADV-xxx-2+0(-US)(-R)		75	150	300	350	480
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U _o /U _n	60V	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	U _c	75V	150V	300V	350V	480V
Nominal Discharge Current (8/20μs)	I _n	20kA	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20μs)	I _{max}	50kA	50kA	50kA	50kA	50kA
Voltage Protection Level	U _p	600V	1000V	1300V	1700V	2000V
Response Time	t _A	< 25ns				
Overcurrent Protection (max)		160A gG				
Short-Circuit Current Rating (AC)	I _{SCCR}	50kA				
TOV Withstand 5s	U _T	114V	229V	337V	403V	581V
TOV 120min	U _T	114V	229V	442V	528V	762V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
UL Electrical						
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	300V	350V	480V
Voltage Protection Rating	VPR	400V	600V	900V	1200V	1500V
Nominal Discharge Current (8/20μs)	I _n	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	200kA	200kA
Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)						
Residual Voltage at 5 kA (8/20 μs)	U _{res}	400V	700V	1000V	1300V	1600V
Overcurrent Protection (min)		80A gG				
Additional Electrical Parameters - Extended (Additionally tested by VDE)						
Short-Circuit Current Rating (AC)	I _{SCCR}	100kA				
Overcurrent Protection (max)		160A gG				
Mechanical & Environmental						
Operating Temperature Range	T _a	-40 °F to +185 °F [-40 °C to +85 °C]				
Permissible Operating Humidity	RH	5%...95%				
Altitude (max)		13123 ft [4000m]				
Terminal Screw Torque	M _{max}	35 lbf-in per UL 1499 [4.5 Nm]				
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449				
		35 mm² (Solid, Stranded) / 25 mm² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green Flag / Not Green Flag				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V/1A, 125V/1 A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A				
RC Conductor Cross Section (max)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm² (Solid)]				

Internal Configuration

Legend

L	Line Conductor Terminal
N	Neutral Conductor Terminal
⏏	PE/G Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TD	Thermal Disconnect



ProTec T2-ADV-xxx-2+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	75	150	300	350	480
ProTec T2-ADV-xxx-2+0	59.0347	59.0220	59.0222	59.0224	59.0226
ProTec T2-ADV-xxx-2+0-R (with remote contacts)	59.0348	59.0221	59.0223	59.0225	59.0227
ProTec T2-ADV-xxx-P (plug)	59.0202	59.0203	59.0204	59.0205	59.0206

ProTec T2-ADV-xxx-2+0-US(-R)

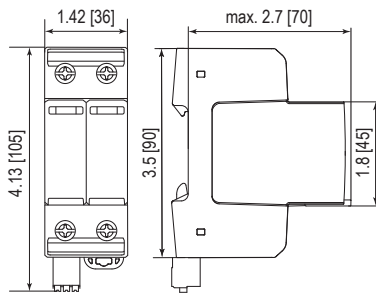
For UL Listed products one PE/G Conductor Terminal is covered/closed.

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	75	150	300	350	480
ProTec T2-ADV-xxx-2+0-US	59.B145	59.B147	59.B149	59.B151	59.B153
ProTec T2-ADV-xxx-2+0-US-R (with remote contacts)	59.B146	59.B148	59.B150	59.B152	59.B154
ProTec T2-ADV-xxx-P (plug)	59.0202	59.0203	59.0204	59.0205	59.0206

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-ADV-xxx-2+0		75	150	300	350	480
Weight	pounds	.544	.562	.593	.615	.637
	grams	247	255	269	279	289

ProTec T2-ADV-xxx-2+0-R

Weight	pounds	.575	.593	.610	.646	.668
	grams	261	269	277	293	303

Complete Unit UL Listed Products

ProTec T2-ADV-xxx-2+0-US		75	150	300	350	480
Weight	pounds	.524	.542	.573	.595	.617
	grams	238	246	260	270	280

ProTec T2-ADV-xxx-2+0-US-R

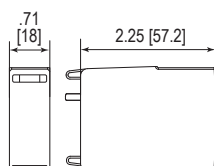
Weight	pounds	.555	.573	.590	.626	.648
	grams	252	260	268	284	294

DIN 43880 Dimension 2 TE / 1.42" [36]

Packaging Dimensions (HxWxL) 4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity 7 Units

Spare Plug



Single Unit Dimensions & Packaging

ProTec T2-ADV-xxx-P		75	150	300	350	480
Weight	pounds	.120	.127	.143	.154	.165
	grams	54	58	65	70	75

DIN 43880 Dimension 1 TE / .71" [18]

Packaging Dimensions (HxWxL) 3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity 24 Units

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G29-00-413-OTL 221115

Overvoltage Protection ProTec T2-ADV 3+0

Class II • Type 2 • Type 1CA • Open Type 1 SPD Listed



Location of Use: Sub-Distribution Boards
 Network Systems: TN-C
 Mode of Protection: L-PEN
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T2-ADV-xxx-3+0(-R) & ProTec T2-ADV-xxx-3+0(-US)(-R)

150 300 350 480

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	U_c	150V	300V	350V	480V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA
Voltage Protection Level	U_p	1000V	1300V	1700V	2000V
Response Time	t_A	< 25 ns			
Overcurrent Protection (max)		160A gG			
Short-Circuit Current Rating (AC)	I_{SCCR}	50kA			
TOV Withstand 5s	U_T	229V	337V	403V	581V
TOV 120min	U_T	229V	442V	528V	762V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1			

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V
Voltage Protection Rating	VPR	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	200kA	200kA

Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700V	1000V	1300V	1600V
Overcurrent Protection (min)		80A gG			

Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100kA			
Overcurrent Protection (max)		160A gG			

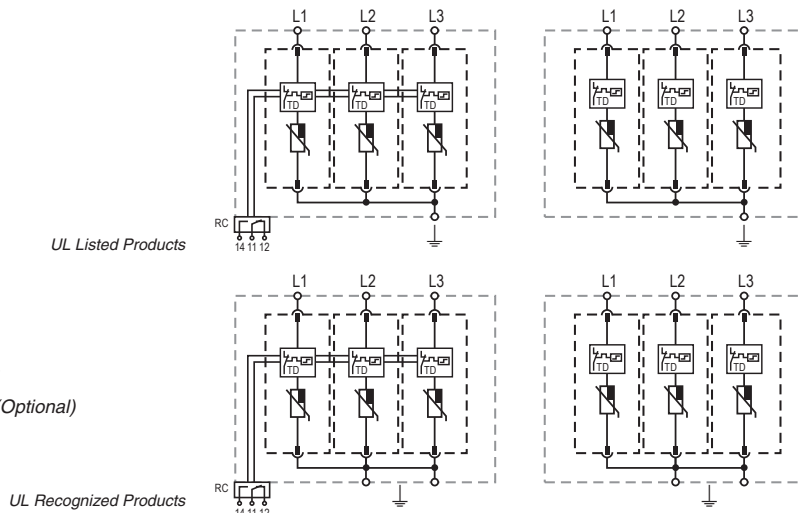
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]			
Permissible Operating Humidity	RH	5%...95%			
Altitude (max)		13123 ft [4000m]			
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1499 [4.5 Nm]			
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green Flag / Not Green Flag			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A			
RC Conductor Cross Section (max)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]			

Internal Configuration

Legend

L	Line Conductor Terminal
⏏	PEN/G Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TD	Thermal Disconnect



ProTec T2-ADV-xxx-3+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	150	300	350	480
ProTec T2-ADV-xxx-3+0	59.0228	59.0230	59.0232	59.0234
ProTec T2-ADV-xxx-3+0-R (with remote contacts)	59.0229	59.0231	59.0233	59.0235
ProTec T2-ADV-xxx-P (plug)	59.0203	59.0204	59.0205	59.0206

ProTec T2-ADV-xxx-3+0-US(-R)

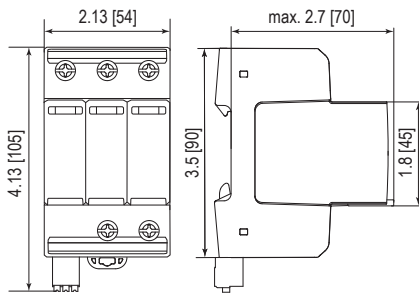
For UL Listed products one PE/G Conductor Terminal is covered/closed.

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	150	300	350	480
ProTec T2-ADV-xxx-3+0-US	59.B155	59.B157	59.B159	59.B161
ProTec T2-ADV-xxx-3+0-US-R (with remote contacts)	59.B156	59.B158	59.B160	59.B162
ProTec T2-ADV-xxx-P (plug)	59.0203	59.0204	59.0205	59.0206

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-ADV-xxx-3+0	150	300	350	480
Weight	pounds .807	.853	.886	.919
	grams 366	387	402	417

ProTec T2-ADV-xxx-3+0-R

Weight	pounds .829	.875	.908	.941
	grams 376	397	412	427

Complete Unit UL Listed Products

ProTec T2-ADV-xxx-3+0-US	150	300	350	480
Weight	pounds .787	.833	.866	.899
	grams 357	378	393	408

ProTec T2-ADV-xxx-3+0-US-R

Weight	pounds .809	.855	.888	.921
	grams 367	388	403	418

DIN 43880 Dimension

3 TE / 2.13" [54]

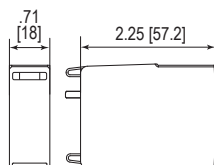
Packaging Dimensions (HxWxL)

4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity

5 Units

Spare Plug



Single Unit Dimensions & Packaging

ProTec T2-ADV-xxx-P	150	300	350	480
Weight	pounds .127	.143	.154	.165
	grams 58	65	70	75

DIN 43880 Dimension

1 TE / .71" [18]

Packaging Dimensions (HxWxL)

3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity

24 Units

Raycap

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Overvoltage Protection ProTec T2-ADV 4+0

Class II • Type 2 • Type 1CA • Open Type 1 SPD Listed



Location of Use: Sub-Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE, N-PE
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T2-ADV-xxx-4+0(-R) & ProTec T2-ADV-xxx-4+0(-US)(-R)

150 300 350 480

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	120V	240V	277V	400V
Maximum Continuous Operating Voltage (AC)	U_c	150V	300V	350V	480V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50 kA	50 kA	50 kA	50 kA
Voltage Protection Level	U_p	1000V	1300V	1700V	2000V
Response Time	t_A	< 25 ns			
Overcurrent Protection (max)		160A gG			
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA			
TOV Withstand 5s	U_T	229V	337V	403V	581V
TOV 120min	U_T	229V	442V	528V	762V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1			

UL Electrical

Maximum Continuous Operating Voltage (AC)	MCOV	150V	300V	350V	480V
Voltage Protection Rating	VPR	600V	900V	1200V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA	150 kA	200 kA	200 kA

Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μ s)	U_{res}	700V	1000V	1300V	1600V
Overcurrent Protection (min)		80A gG			

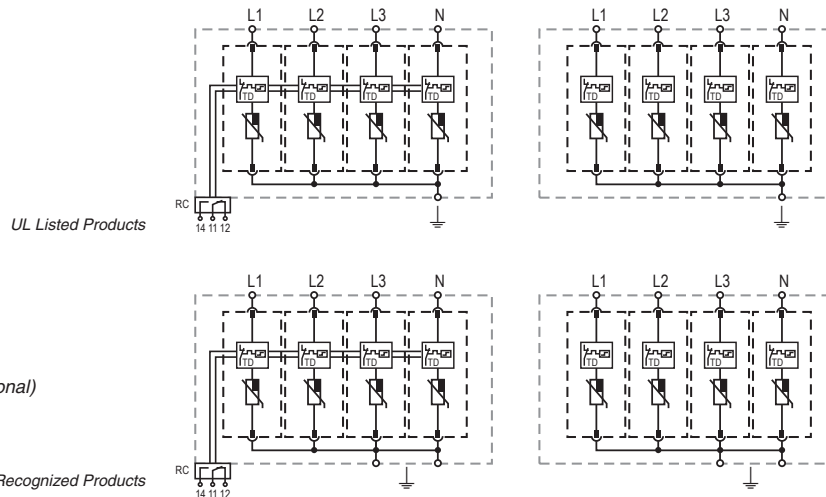
Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100 kA			
Overcurrent Protection (max)		160A gG			

Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]			
Permissible Operating Humidity	RH	5%...95%			
Altitude (max)		13123 ft [4000m]			
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1499 [4.5 Nm]			
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green Flag / Not Green Flag			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A			
RC Conductor Cross Section (max)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]			

Internal Configuration



Legend

- L Line Conductor Terminal
- N Neutral Conductor Terminal
- PE/G Conductor Terminal
- RC Remote Contacts Terminal (Optional)
- TD Thermal Disconnecter

ProTec T2-ADV-xxx-4+0(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	150	300	350	480
ProTec T2-ADV-xxx-4+0	59.0236	59.0238	59.0240	59.0242
ProTec T2-ADV-xxx-4+0-R (with remote contacts)	59.0237	59.0239	59.0241	59.0243
ProTec T2-ADV-xxx-P (plug)	59.0203	59.0204	59.0205	59.0206

ProTec T2-ADV-xxx-4+0-US(-R)

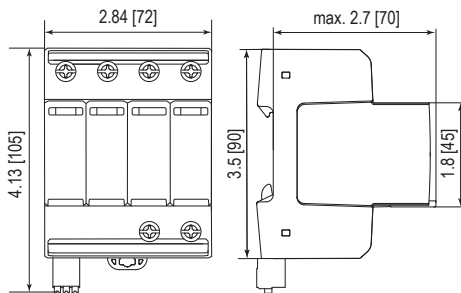
For UL Listed products one PE/G Conductor Terminal is covered/closed.

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	150	300	350	480
ProTec T2-ADV-xxx-4+0-US	59.B163	59.B165	59.B167	59.B169
ProTec T2-ADV-xxx-4+0-US-R (with remote contacts)	59.B164	59.B166	59.B168	59.B170
ProTec T2-ADV-xxx-P (plug)	59.0203	59.0204	59.0205	59.0206

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-ADV-xxx-4+0		150	300	350	480
Weight	pounds	1.087	1.148	1.192	1.236
	grams	493	521	541	561

ProTec T2-ADV-xxx-4+0-R

Weight	pounds	1.106	1.168	1.212	1.256
	grams	502	530	550	570

Complete Unit UL Listed Products

ProTec T2-ADV-xxx-4+0-US		150	300	350	480
Weight	pounds	1.067	1.128	1.172	1.216
	grams	484	512	532	552

ProTec T2-ADV-xxx-4+0-US-R

Weight	pounds	1.086	1.148	1.192	1.236
	grams	493	521	541	561

DIN 43880 Dimension

4 TE / 2.84" [72]

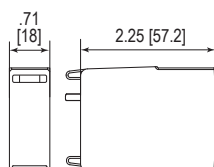
Packaging Dimensions (HxWxL)

4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity

4 Units

Spare Plug



Single Unit Dimensions & Packaging

ProTec T2-ADV-xxx-P		150	300	350	480
Weight	pounds	.127	.143	.154	.165
	grams	58	65	70	75

DIN 43880 Dimension

1 TE / .71" [18]

Packaging Dimensions (HxWxL)

3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity

24 Units

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G29-00-415-OTL 221115

Overvoltage Protection ProTec T2-ADV 1+1

Class II • Type 2 • Type 1CA • Open Type 1 SPD Listed



Location of Use: Sub-Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T2-ADV-xxx-1+1(-R) & ProTec T2-ADV-xxx-1+1(-US)(-R)

75 150 300 350

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	75V	150V	300V	350V
	(N-PE) U_c	305V	305V	305V	305V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 40 kA	20 kA / 40 kA	20 kA / 40 kA	20 kA / 40 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	50 kA / 65 kA	50 kA / 65 kA	50 kA / 65 kA	50 kA / 65 kA
Voltage Protection Level	(L-N)/(N-PE) U_p	600V / 1500V	1000V / 1500V	1300V / 1500V	1700V / 1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A			
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns			
Overcurrent Protection (max)		160A gG			
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA			
TOV Withstand 5s	(L-N) U_T	114V	229V	337V	403V
TOV 120min	(L-N) U_T	114V	229V	442V	528V
	mode	Withstand	Withstand	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T	1200 V			
Number of Ports		1			

UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	75V / 305V	150V / 305V	300V / 305V	350V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	400V / 1000V	600V / 1000V	900V / 1000V	1200V / 1000V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20 kA / 20 kA			
Short-Circuit Current Rating (AC)	(L-N) SCCR	100 kA	200 kA	150 kA	200 kA

Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μ s)	(L-N) / (N-PE) U_{res}	400V / 305V	700V / 305V	1000V / 305V	1300V / 305V
Overcurrent Protection (min)		160A gG			

Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100kA			
Overcurrent Protection (max)		160A gG			

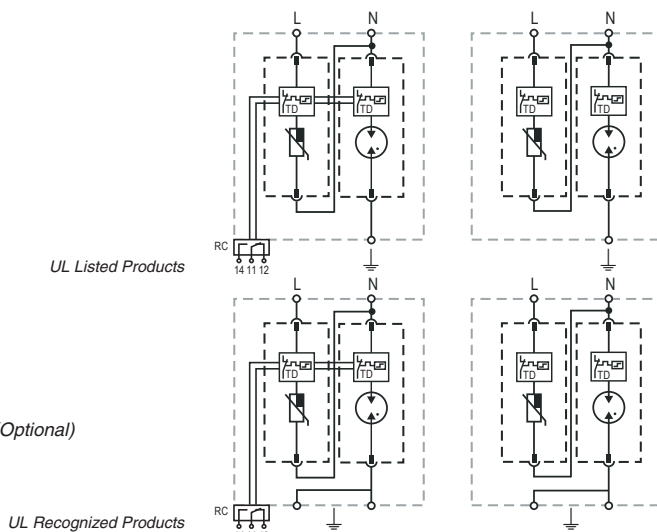
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]			
Permissible Operating Humidity	RH	5%...95%			
Altitude (max)		13123 ft [4000m]			
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1499 [4.5 Nm]			
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449			
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green Flag / Not Green Flag			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V/1A, 125V/1A; DC: 48V/0.5A, 24V/0.5A, 12V/0.5A			
RC Conductor Cross Section (max)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]			

Internal Configuration

Legend

L	Line Conductor Terminal
N	Neutral Conductor Terminal
⏏	PE/G Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TD	Thermal Disconnect



ProTec T2-ADV-xxx-1+1(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	75	150	300	350
ProTec T2-ADV-xxx-1+1	59.0244	59.0246	59.0248	59.0250
ProTec T2-ADV-xxx-1+1-R (with remote contacts)	59.0245	59.0247	59.0249	59.0251
ProTec T2-ADV-xxx-P (plug L-N)	59.0202	59.0203	59.0204	59.0205
ProTube T2-ADV-40-P (plug N-PE)	59.0275	59.0275	59.0275	59.0275

ProTec T2-ADV-xxx-1+1-US(-R)

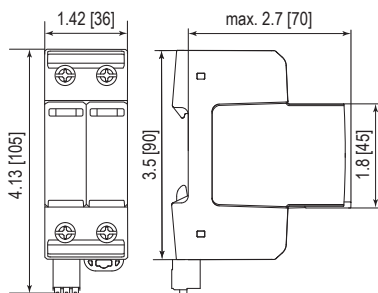
For UL Listed products one PE/G Conductor Terminal is covered/closed.

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	75	150	300	350
ProTec T2-ADV-xxx-1+1-US	59.B171	59.B173	59.B175	59.B177
ProTec T2-ADV-xxx-1+1-US-R (with remote contacts)	59.B172	59.B174	59.B176	59.B178
ProTec T2-ADV-xxx-P (plug L-N)	59.0202	59.0203	59.0204	59.0205
ProTube T2-ADV-40-P (plug N-PE)	59.0275	59.0275	59.0275	59.0275

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-ADV-xxx-1+1		75	150	300	350
Weight	pounds	.520	.529	.544	.555
	grams	236	240	247	252

ProTec T2-ADV-xxx-1+1-R

Weight	pounds	.533	.542	.557	.568
	grams	242	246	253	258

Complete Unit UL Listed Products

ProTec T2-ADV-xxx-1+1-US		75	150	300	350
Weight	pounds	.500	.509	.524	.535
	grams	227	231	238	243

ProTec T2-ADV-xxx-1+1-US-R

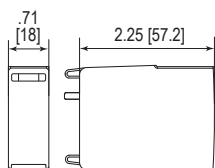
Weight	pounds	.513	.522	.537	.548
	grams	233	237	244	249

DIN 43880 Dimension 2 TE / 1.42" [36]

Packaging Dimensions (HxWxL) 4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity 7 Units

Spare Plug



Single Unit Dimensions & Packaging

ProTec T2-ADV-xxx-P		75	150	300	350
Weight	pounds	.120	.127	.143	.154
	grams	54	58	65	70

ProTube T2-ADV-40-P

Weight	pounds	.093			
	grams	42			

DIN 43880 Dimension 1 TE / .71" [18]

Packaging Dimensions (HxWxL) 3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity 24 Units

Raycap

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G29-00-416-OTL 221115

Overvoltage Protection ProTec T2-ADV 3+1

Class II • Type 2 • Type 1CA • Open Type 1 SPD Listed



Location of Use: Sub-Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N, N-PE
 IEC/EN/UL Category: Class II / Type 2 / Type 1CA
 Open Type 1 SPD Listed
 Housing: Pluggable Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012+A11:2018
 UL 1449 5th Edition

Technical Data

ProTec T2-ADV-xxx-3+1(-R) & ProTec T2-ADV-xxx-3+1(-US)(-R)

300

350

IEC Electrical

Nominal AC Voltage (50/60Hz)	U_o / U_n	240V	277V
Maximum Continuous Operating Voltage (AC)	(L-N) U_c	300V	350V
	(N-PE) U_c	305V	305V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_n	20 kA / 40 kA	20 kA / 40 kA
Maximum Discharge Current (8/20 μ s)	(L-N)/(N-PE) I_{max}	50 kA / 65 kA	50 kA / 65 kA
Voltage Protection Level	(L-N)/(N-PE) U_p	1300V / 1500V	1700V / 1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A	
Response Time	(L-N)/(N-PE) t_A	< 25 ns / < 100 ns	
Overcurrent Protection (max)		160 A gG	
Short-Circuit Current Rating (AC)	I_{SCCR}	50 kA	
TOV Withstand 5s	(L-N) U_T	337V	403V
TOV 120min	(L-N) U_T	442V	528V
	mode	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T	1200 V	
Number of Ports		1	

UL Electrical

Maximum Continuous Operating Voltage (AC)	(L-N)/(N-G) MCOV	300V / 305V	350V / 305V
Voltage Protection Rating	(L-N)/(N-G) VPR	900V / 1000V	1200V / 1000V
Nominal Discharge Current (8/20 μ s)	(L-N)/(N-G) I_n	20 kA / 20 kA	
Short-Circuit Current Rating (AC)	(L-N) SCCR	150 kA	200 kA

Additional Electrical Parameters - Standard (Tests performed within Raycap testing laboratory only)

Residual Voltage at 5 kA (8/20 μ s)	(L-N) / (N-PE) U_{res}	1000V / 305V	1300V / 305V
Overcurrent Protection (min)		80 A gG	

Additional Electrical Parameters - Extended (Additionally tested by VDE)

Short-Circuit Current Rating (AC)	I_{SCCR}	100 kA	
Overcurrent Protection (max)		160 A gG	

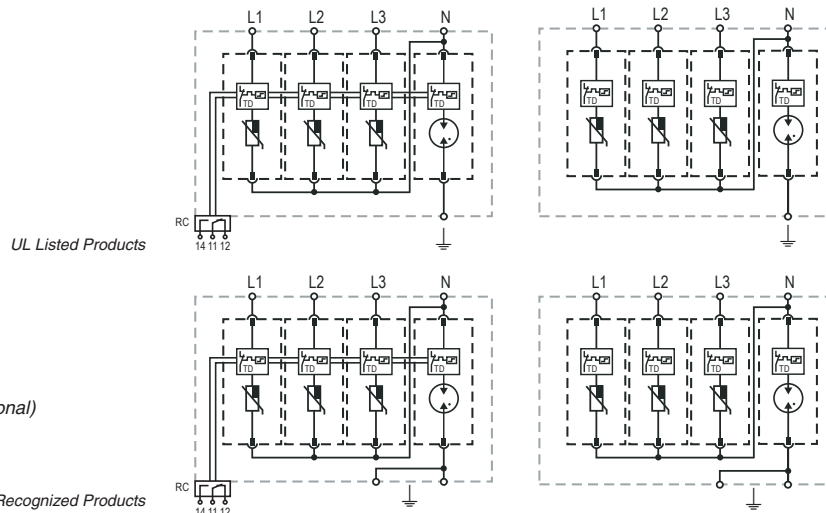
Mechanical & Environmental

Operating Temperature Range	T_a	-40 °F to +185 °F [-40 °C to +85 °C]	
Permissible Operating Humidity	RH	5%...95%	
Altitude (max)		13123 ft [4000m]	
Terminal Screw Torque	M_{max}	35 lbf-in per UL 1499 [4.5 Nm]	
Conductor Cross Section (max)		6 AWG (Solid, Stranded) per UL 1449	
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)	
Mounting		35 mm DIN Rail, EN 60715	
Degree of Protection		IP 20 (built-in)	
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0	
Thermal Protection		Yes	
Operating State / Fault Indication		Green Flag / Not Green Flag	
Remote Contacts (RC)		Optional	
RC Switching Capacity		AC: 250V / 1A, 125V / 1A; DC: 48V / 0.5A, 24V / 0.5A, 12V / 0.5A	
RC Conductor Cross Section (max)		10 AWG (Solid, Stranded) per UL 1449 [1.5 mm ² (Solid)]	

Internal Configuration

Legend

L	Line Conductor Terminal
N	Neutral Conductor Terminal
⏏	PE/G Conductor Terminal
RC	Remote Contacts Terminal (Optional)
TD	Thermal Disconnect



ProTec T2-ADV-xxx-3+1(-R)

Order Information VDE Certified and UL Recognized Products

Order Code	300	350
ProTec T2-ADV-xxx-3+1	59.0256	59.0258
ProTec T2-ADV-xxx-3+1-R (with remote contacts)	59.0257	59.0259
ProTec T2-ADV-xxx-P (plug L-N)	59.0204	59.0205
ProTube T2-ADV-40-P (plug N-PE)	59.0275	59.0275

ProTec T2-ADV-xxx-3+1-US(-R)

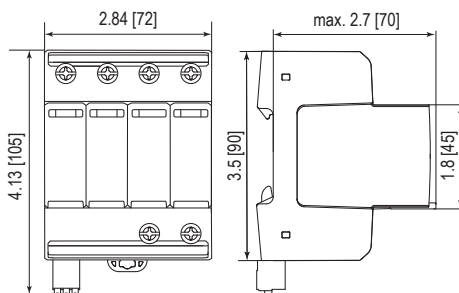
For UL Listed products one PE/G Conductor Terminal is covered/closed.

Order Information VDE Certified and Open Type 1 UL Listed Products

Order Code	300	350
ProTec T2-ADV-xxx-3+1-US	59.B179	59.B181
ProTec T2-ADV-xxx-3+1-US-R (with remote contacts)	59.B180	59.B182
ProTec T2-ADV-xxx-P (plug L-N)	59.0204	59.0205
ProTube T2-ADV-40-P (plug N-PE)	59.0275	59.0275

Dimensions & Packaging

inches [mm]



Complete Unit UL Recognized Products

ProTec T2-ADV-xxx-3+1	300	350
Weight	pounds 1.080	1.113
	grams 490	505

ProTec T2-ADV-xxx-3+1-R

Weight	pounds 1.100	1.133
	grams 499	514

Complete Unit UL Listed Products

ProTec T2-ADV-xxx-3+1-US	300	350
Weight	pounds 1.060	1.093
	grams 481	496

ProTec T2-ADV-xxx-3+1-US-R

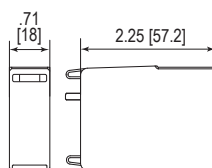
Weight	pounds 1.080	1.113
	grams 490	505

DIN 43880 Dimension 4 TE / 2.84" [72]

Packaging Dimensions (HxWxL) 4.3 x 4.5 x 13.8" [109 x 115 x 352 mm]

Standard Order Quantity 4 Units

Spare Plug



Single Unit Dimensions & Packaging

ProTec T2-ADV-xxx-P	300	350
Weight	pounds .143	.154
	grams 65	70

ProTube T2-ADV-40-P

Weight	pounds .093	40
	grams 42	

DIN 43880 Dimension 1 TE / .71" [18]

Packaging Dimensions (HxWxL) 3.2 x 4.5 x 12" [83 x 116 x 305 mm]

Standard Order Quantity 24 Units

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