

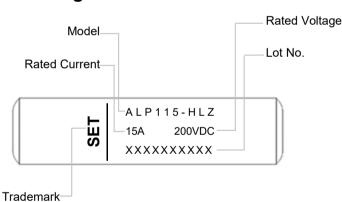


The Direct Current Thermal-Link Alloy Type (DC-ATCO) is a thermal-link that utilizes low melting point alloys, known as the thermal element, which fuse when heated to a specific fusing temperature. This allows for controlled circuit disconnection. The DC-ATCO is composed of various components, including locating ring, a case, the low melting point alloys (thermal element), electrode and flux resin.

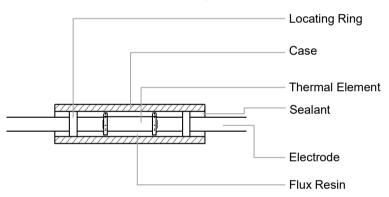
The DC-ATCO is widely employed for over-temperature protection in electrical equipment and electric vehicles. Typically, the low melting point alloys (thermal element) are connected in series between two electrode pins. When the temperature reaches the predetermined fusing temperature of the DC-ATCO, the low melting point alloys (thermal element) melt and swiftly retract to the ends of the two pins, facilitated by the flux resin. This effectively disconnects the circuit.

The SETsafe | SETfuse Direct Current Thermal-Link (Alloy Type) is available in axial and radial shapes, with a rated functioning temperature ranging from 102 °C to 125 °C, rated current: 15 A, 60 A, rated voltage: 200 VDC, 180 VDC. It is compliant with RoHS and REACH regulations.

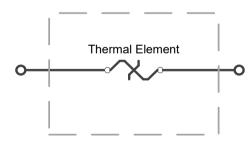
Marking



Structure Diagram



Product Schematic



Features

- High Accuracy of Functioning Temp.
- Non-Resettable
- RoHS & REACH Compliant

Applications

- **Battery Cooling Heaters**
- Air-Conditioners Heaters
- Pre-charged Resistors
- High Power LED

Customization

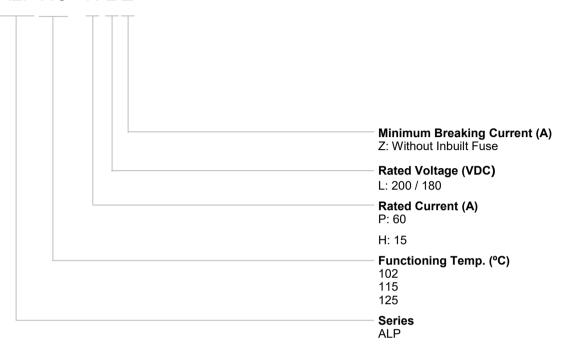
Rated Functioning Temp.



ALP Series

Part Number System

ALP115 - H L Z

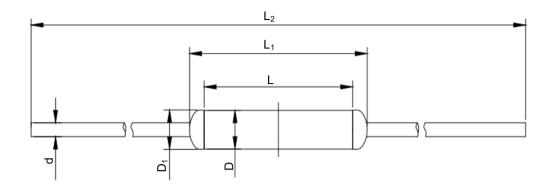


Reminder:

Part numbering system in the datasheet is only for selecting correct parameter and product features. Before placing order, please contact us for specifications and use the part number and product code in the specifications to place order to ensure the part is correct. Product code is the unique indentification.



Dimensions (Unit: mm)



L	L ₁	L ₂	D	D ₁	d
20.0 ± 1.0	≤ 25	80.0 ± 1.0	Ф5.0 ± 0.3	≤ 5.5	Ф1.8 ± 0.1

Specifications

Functioning Temp. (Tt) °C		Model	(A)	U _r	Rated Functioning Temp.	T _h	T _m	RoHS REACH
oning T	125	ALP125-PLZ	60	180	122 ± 3	85	250	•
Functi	115	ALP115-HLZ	15	200	113 ± 2	85	250	•
Rated	102	ALP102-PLZ	60	180	99 : 5	60	250	•

Note:

1. RoHS & REACH Comply.



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Temp.-Time Curve

The functioning temperature time curve of Alloy Thermal-Link in different Temp. oil bath (For reference only).

Come as soon as possible

Current-Time Curve

This is an illustrated curve, describing the opening time at Multi-times rated current in the condition of the room Temp. 25 °C (For reference only).

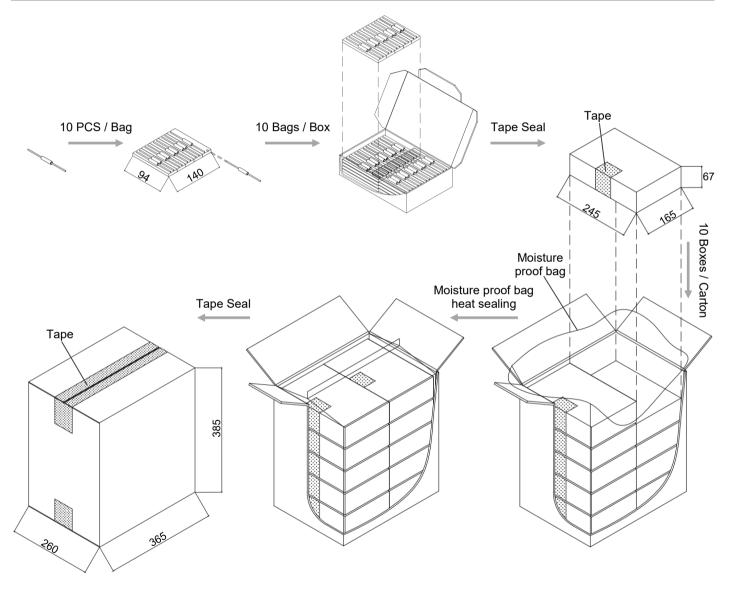
Come as soon as possible



ALP Series

Packaging Information

Item	PE Bag	Вох	Carton
Dimensions (mm)	140 x 94	245 x 165 x 67	365 x 260 x 385
Quantity (PCS)	10	100	1000
Gross Weight (kg)			4 ± 10%



ALP Series

Glossary

Item	Description
DC-ATCO	DC-Alloy Thermal-Link DC-Alloy type Thermal-Link, Alloy is thermal element.
T _f	Rated Functioning Temp. The temperature of the Thermal-Link which causes it to change the state of conductivity with a detection current up to 10 mA as the only load. Tolerance: T_f (0 / -10) °C (GB 9816, EN 60691, K60691). Tolerance: $T_f \pm 7$ °C (J60691).
Fusing Temp.	Fusing Temp. The temperature of the Alloy Thermal-Link which causes it to change its state of conductivity is measured with silicone oil bath in which the temperature is increased at the rate of 0.5 °C to 1 °C / minute, with a detection current up to 10 mA as the only load.
T _h	Holding Temp. The Maximum temperature at which a Thermal-Link will not change its state of conductivity when conducting rated current for 168 hours.
T _m	Maximum Temp. Limit The temperature of the Thermal-Link stated by the manufacturer, up to which the mechanical and electrical properties of the Thermal-Link having changed its state of conductivity, will not be impaired for a given time.
I _{min}	Minimum Breaking Current The minimum current that Fuse requires after the Alloy of Thermal-Link opens in the circuit.
I _r	Rated Current The current used to classify a Thermal-Link, which is the maximum current that Thermal-Link allows to carry and is able to cut off the circuit safely.
U r	Rated Voltage The voltage used to classify a Thermal-Link, which is the maximum voltage that Thermal-link allows to carry and is able to cut off the circuit safely.



ALP Series



Usage

- 1. When atmosphere pressure is from 80 kPa to 106 kPa, the related altitude shall be from -500 m to 2000 m.
- 2. Operating voltage less than rated voltage of DC-ATCO, operating current less than rated current of DC-ATCO.
- 3. Do not touch the DC-ATCO body or lead wires directly when power is on, to avoid burn or electric shock.

Replacement

DC-ATCO is a non-repairable product. For safety sake, it shall be replaced by an equivalent DC-ATCO from the same manufacturer, and mounted in the same way.

Storage

Do not store the DC-ATCO at the high temp., high humidity or corrosive gas environment. The product shall be stored at 25 ± 5 °C and ≤ 70% RH, avoid direct sunlight and shall use them up within 1 year after receiving the goods.



ALP Series

Installation

Make Sure the Temp. of Installation Position

- 1. It is recommended that a dummy DC-ATCO with inbuilt thermo-couple shall be used to determine the proper temp.
- 2. he terminal product should be tested to ensure that potential abnormal conditions do not cause ambient temp. to exceed the $T_{\rm m}$ of the DC-ATCO.
- 3. Mount the DC-ATCO at the location where temp. rises evenly.

Installation position of mechanical performance requirements

- 1. Ensure that the lead wire is long enough, and avoid actions such as press, tensile or twist.
- 2. The seal or body of DC-ATCO must not be damaged, burned or over heated.

Mechanical Connection

Riveting

- 1. Choose small resistivity riveting material and be riveted.
- 2. A flexible lead or lead with low resistance should be used to rivet the DC-ATCO.
- 3. Contact resistance should be minimal, Large contact resistance will lead to higher temp., DC-ATCO Functioning in advance.

ated Vo	oltage AC)* oltage	· · · · · · · · · · · · · · · · · · ·							© 	· · · · · · · · · · · · · · · · · · ·	
ated Co	DC)^	850		600			00		 50	400	
] r (4	A)	15	30	25	15	30	15	15	10	20	t
	76		0			AINLOO-LINA		0	0		1
	86					ARL86-LRA^		TG86C-HQZ^	RQF86-FQS^		
	97 93	0	0								4
•	102	TGH102-HVS^	ASL102A-LSF^	RSK102A-KSS^	RVH102-HSF [^]	ARL102-LRA^	RPK102-HRZ^	TG102C-HQZ^	RQF102-FQS^	TG102C-JPZ^	
a	105	0	0	0	0	0	0	0	0	0	4
ָט ע	115	TGH115-HVS^	ASL115A-LSF [^]	RSK115A-KSS [^]	RVH115-HSF [^]	ARL115-LRA^	RPK115-HRZ [^]	TG115C-HQZ [^]	RQF115-FQS^	TG115C-JPZ [^]	1
Rated Functioning Temp. (7:1)	120	0	0								4
5	123	0	0								1
5	125	TGH125-HVS^	ASL125A-LSF^	RSK125A-KSS [^]	RVH125-HSF [^]	ARL125-LRA^	RPK125-HRZ [^]	TG125C-HQZ [^]	RQF125-FQS^	TG125C-JPZ^	1
5	130	TGH130-HVS^			RVH130-HSF [^]				RQF130-FQS^		
	133	0	0								1
_	135	0	0								1
E	136	TGH136-HVS^	ASL136A-LSF^	RSK136A-KSS [^]	RVH136-HSF [^]	ARL136-LRA^	RPK136-HRZ [^]	TG136C-HQZ [^]	RQF136-FQS^	TG136C-JPZ^	ı
<u>.</u>	139	0	0								1
	145	0	0	0	0	O	0	0	0	0	ı
-	150	TGH150-HVS^	ASL150A-LSF^	RSK150A-KSS^	RVH150-HSF^	ARL150-LRA^	RPK150-HRZ^	TG150C-HQZ^	RQF150-FQS^	TG150C-JPZ^	1
)	187 160	TGH187-HVS [^]	ASL187A-LSF^	RSK187A-KSS [^]	RVH187-HSF [^]	ARL187-LRA^			RQF187-FQS^		ł
	200	O TOULOZ UNIOA	0	0	0	0			0		4
	205	0	0								ł
	221	0	0								4
	230	0	0								4

Produ Struct	uct												
Rated Vol U _r (VA(Rated Vol		60		0	0	690		00	0				
Rated Cur	rrent C)^			400		200			180		16 12		
/ r (A))	20	15	10	15	15	10	5	60	20	15	10	25
	86 76	0	TG86C-HSZ*	RPF86-FPF^									
	93	0	0	0									
	97	0											
Ŷ	102	TG102C-JSZ*		0					ALP102-PLZ^	QD102^	PD102^	TD102^	SD102^
ate	105	0											
Rated Functioning Temp. (7,) °C	115	TG115C-JSZ*			ALP115-HLZ^					QD115^	PD115^	TD115^	SD115^
₫	120	0											
5	125 123	TG125C-JSZ*				HN125^*	HP125^*	HS125^*	ALP125-PLZ^	QD125^	PD125^	TD125^	SD125^
<u>ō</u>	130	0				0	0	0	0	QD130^	PD130^	TD130^	SD130^
<u>=</u>	133	0								0	0	0	0
ס	135	0											
<u>e</u>	136	TG136C-JSZ*				HN136^*	HP136^*	HS136^*		QD136^	PD136^	TD136^	SD136^
d L	139	0											
-	145	0								0			
<u></u>	150	TG150C-JSZ*				HN150^*	HP150^*	HS150^*		QD150^	PD150^	TD150^	SD150^
ပ္	187 160	0											
	200	0											
	205	0											
	221	0											
	230	0											

Proc Struc	luct cture								0		•	32			
U r(V) Rated V	AC)* oltage	400	300	250	400	300	250	0	125	0	125		0	0	
U _r (VI Rated V	DC)^			12	20			100	0	100	0	10	00	60	1
r (A Rated C	A)		25			20		20	00	10	00	10	15 16	50	П
	76	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	86	0													
	93	0													1
_	97	Q102**			P102**	P102*	P102*	TB102-UHZ^	TB102-UJZ*	TS102-RHZ [^]	TS102-RJZ*	S102^	T102^		ı
Rated Functioning Temp. (T_i) $^\circ$ C	105 102	Q102^*			P102^*	O D400*	0	O TD400 LILIZA	O TD400 LL17*	O TO400 DUZA	O TO 400 D 17*	0	O T400A		1
ted	115	Q115^*	Q115*	Q115*	P115^*	P115*	P115*	TB115-UHZ^	TB115-UJZ*	TS115-RHZ [^]	TS115-RJZ*	S115 [^]	T115^		ı
正	120	0													1
I I	123	0													
ij	125	Q125^*			P125^*			TB125-UHZ^	TB125-UJZ*	TS125-RHZ [^]	TS125-RJZ*				
on	130	0						TB130-UHZ^	TB130-UJZ*						1
<u>i</u>	133	0													
Ĕ	135	0	0	0	0	0	0	0	0	0	0	0	0		
em	136	Q136^*	Q136*	Q136*	P136^*	P136*	P136*	TB136-UHZ^	TB136-UJZ*	TS136-RHZ [^]	TS136-RJZ*	S136^	T136^		ı
Ġ.	139	0													1
	150 145	0										S150^	T150^		ı
	160	0										0	0		1
ပ	187	0													
	200	0													1
	205	0													ı
	221	0													1
	230	0												ADN230B-NEZ	

ALP Series

DC-ATCO

Direct Current Thermal-Link (Alloy Type)

rodi ruct	uct cure								□	— (
r (VA ed Vo	C)* Itage	250	0	250			0			250				2	50	0	2	50	125		o 		250	
r (VD ed Vo	C)^	 											60											
r (A)		5	1	0	9	8.5	8	6	,	5		4		3	2.5	2	,	1	4		3	2	1
	76	R0^*		U0^*					0							0 10					0	X0*	K0*	F10
	93 86	R18^*		U18^*					C18^							V18^					F18^	X18^*	K18^*	F18*
	97	0																						
	102	R1^*		U1^*																	F1^	X1^*	K1^*	F1*
	105	0		0																	0	0	0	0
	115	R2^*		U2^*				C2^				V2^		SF2 [^]							F2^	X2^*	K2^*	F2*
	120	0																						
	123	0																						
	125	R3^*		U3^*													H3^*					X3^*	K3^*	F3*
	130	R4^*		U4^*								V4^		SF4^							F4^	X4*	K4*	F4*
	133	0										V8^		SF8^							F8^	X8*	K8*	F8*
	135	R5^*		U5^*																		X5*	K5*	
	136	0	0			0	0				0	0	X9^							K9^	0	X9*	K9*	0
	139	0	CR13^	00.	0	M13^	C13^				SF13^	V13^	V0.							0	F13^	0	0	F13*
	145	R/^^		U6^*	C6^								X6^							K6^	F6^	X7* X6*	K7*	F7* F6*
•	160 150	R16^*		U16^*						C16^*							H16^*	V16^*				X16^*	K16^*	F16*
	187	0		0						0							0	0				X17^*	K17^*	0
	200	0																						
	205	R32^*		U32^*						C32^*					B32^*		H32^*	V32^*	V32*			X32*	K32*	
	221	R31^*		U31^*						C31^*					B31^*		H31^*	V31^*	V31*			X31*	K31*	
	230	0																						

ALP Series

Produ Struct	uct ture					Е	→		D									
r (VAC		2	50	0	250	125	250	125	250	125	250	125			0			
r(VD0	C)^	6	60					50					49	4	18	24		
r (A)) rrent	3	2	7		5	3		,	2		1	50	55	50	80		
	76	XG0*	KG0*		C0*	0	B0^*	B0*	H0^*	H0*	V0^*	V0*		0				
	86	XG18^*	KG18^*		C18^*	C18*	B18^*	B18*	H18^*	H18*	V18^*	V18*		0				
	93	0				C21^*		B21^*		H21^*		V21^*		0				
1	102 97	XG1^*	KG1^*		C1^*	C1*	B1^*	B1*	H1^*	H1*	V1^*	V1*		0				
!	105	0	0		0	0	0	0	0	0	0	0		0				
	115	XG2^*	KG2^*	C2^	C2*		B2^*		H2^*		V2^*							
	120	0												0				
5	123	0												0				
5	125	XG3^*	KG3^*	C3^	C3*		B3^*				V3^*			0				
	130	XG4*	KG4*	C4^	C4*		B4^*		H4^*		V4^*			0				
	133	XG8*	KG8*	C8^	C8*		B8^*		H8^*		V8^*			0				
	135	XG5*	KG5*	C5^	C5*		B5^*		H5^*		V5^*			0				
	136	XG9*	KG9*	C9^	C9*		B9^*		H9^*		V9^*							
	139	0	O	C13^	C13*		B13^*		H13^*		V13^*			0				
	145	XG7*	KG7*	C6^	C6*		B6^*		H6^*		V6^*			0				
	160 150	XG16* XG7*	KG16* KG7*	C7^	C7*		B16* B7^*		H7^*		V7^*			0				
	187	O VC46*	0				O D46*							0				
	200	0												0				
	205	XG32*	KG32*			C33*		B32*		H32*				0				
	221	XG31*	KG31*			C31*		B31*		H31*				0	ADN205B-NDZ^			
	230	0											ADN230B-NDZ^	ADN230B-PDZ^		ADN230B-QBZ^		