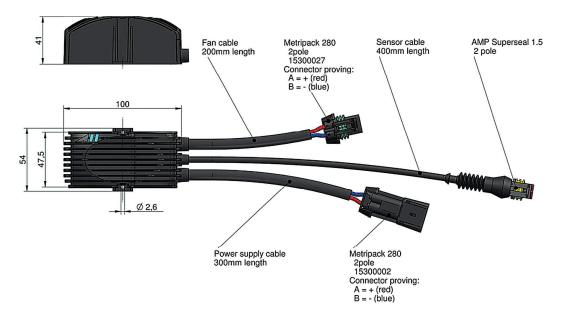
Accessories

temperature control



This system consists of a temperature sensor (ILLZTT5069K) and a control unit (12V or 24V available). The fan speed varies according to the actual oil temperature on the sensor. This reduces the noise level of the cooler system and increases the durability of the fan motor, because it is not running on the maximum speed all the time. The start up temperature of this system is 44°C and the maximum rotation of the fan is applied when the oil temperature reaches 55°C. The electro-magnetic compatibility (EMC) is tested according to CE (89/336/EC) and E (95/54/EC). Moreover the control unit (ILLZTC12-2K and ILLZTC24-2K) can also be connected with our temperature switches (IP69K switch type). This is a simple on/off mode, according to the switch temperature. The control unit benefit is the soft start curve, extending the life time of the fan motor.



- energy saving
- reduced noise level
- EMC compatibility
- IP 69K protection to sensor/switch

Technical Data

order number	description	max. power fan motor	max, current fan	protection	weight	supply
		[W]	[A]		[kg]	DC
ILLZTC12-2K	temperature control 12V DC	310	21 (14,7V DC)	IP 67	0,25	12V (9V - 15V)
ILLZTC24-2K	temperature control 24V DC	340	12 (24V DC)	IP 67	0,25	24V (18V - 32V)

Characteristics

material:	polyamide
mounting instructions	any mounting position

Measurement input

temperature sensor	ILLZTT5069K (control range 44-55°C) page 38
temperature switch	ILLZTH5069K (set point 50°C, soft start)
	ILLZTH6069K (set point 60°C, soft start)
	ILLZTH9069K (set point 90°C, soft start)

Ambient Conditions

ambient temperature range	−20°C to +85°C	
storage temperature range	-60°C to +110°C	

Combinations

12V and 24V DC coolers	LL 04, LL 06, LL08/TT 07 - 25 rail/ASA 0177 - 0367

Please note:

The maximum start current is approximately 10% higher than the nominal current of the motor. Observe the maximum allowable supply of the fan motor. The allowed voltage range of the fan might differ from the allowed voltage range of the temperature control. In case of inverse polarity of the supply, the control unit is deactivated. After changing the polarity, the control is ready for use again. If the supply voltage exceeds 16,5V (ILLZTC12-2K) and 32V (ILLZTC24-2K) respectively, the control is switched off to protect the fan. After supply voltage is reducing below 12V or 24V, respectively, the control is activated again, automatically. The closed current is 5mA (ILLZTC12-2K) and 4mA (ILLZTC24-2K), respectively. The recommended fuse is fast acting 25A (ILLZTC12-2K) and 16A (ILLZTC24-2K), respectively. Due to the high currents (21A at the ILLZTC12-2K), the dimension of the electrical wires must be appropriate and in case of a luster terminal it has to be tightened properly.

This data sheet and the corresponding scale drawings are to be used as a general guideline and technical overview of our products. Please contact us if more exact information is needed. As we are constantly improving our products, their characteristics, dimensions and weights may also change, although we do our best to incorporate these changes continually, as a assumes no liability for any information therein, any errors, omissions, misprints, nor any direct indirect damages, losses or costs resulting herefrom. Any cooling performances and general technical values indicated in this catalogue are measured at a test be bench according for sast estinging procedures or calculated, based on such tests. Because there is no standardized testing procedure, tests used by other manufacturers could have different results. Due to different conditions in testing and application environments the cooling performance may also vary by +/- 15%. Therefore we recommend all products to be checked under the system operating conditions. This is a last true of vibrations and mechanical stress as well as for pressure peaks and thermal stress and any other relevant factors. General tolerances for procedure to the pressure peaks and thermal stress and any other relevant factors. It is not specified on the actual scale drawing or data sheet. In addition to that we point out that any data sheet and corresponding scale drawing is no substitution for the manual.

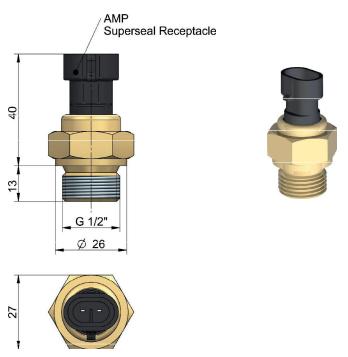
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Accessories

temperature sensor



The temperature sensor requires a control unit for the control system which is available in 12V (ILLZTC12-2K) and 24V (ILLZTC24-2K). The fan speed varies according to the actual oil temperature on the sensor. This reduces the noise level of the cooler system and increases the durability of the fan motor, because it is not running on the maximum speed all the time. The start up temperature of this system is 44°C and the maximum rotation of the fan is applied when the oil temperature reaches 55°C.





- NTC sensing
- IP 69K protection
- compact design

Technical Data

order number	description	connection	protection	weight
				[kg]
ILLZTT5069K	temperature sensor BSP ½"	AMP superseal 1.5	IP69K	0,09

Characteristics

screw part material	brass
mounting instructions	any mounting position
maximum tightening torque	50Nm

Measurement Output

connection AMP superseal 1.5	connection		
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Ambient Conditions

oil temperature range	-20°C to +100°C
ambient temperature range	−20°C to +85°C
storage temperature range	−60°C to 110°C

Required Accessories

temperature control unit 12V DC	ILLZTC12-2K (page 43)
temperature control unit 24V DC	ILLZTC24-2K (page 43)

Combinations

12V and 24V DC coolers	LL 04, LL 06, LL08 / TT 07 - 25 rail / ASA 0177 - 0367
±2 v and 2 iv DO 0000010	EE 0 1, EE 00, EE00 / 11 0/ 20 1411/10/101/

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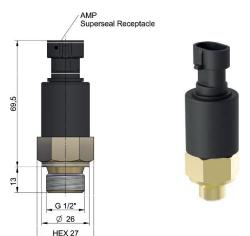
Vibration Absorber MDGQ Absorber



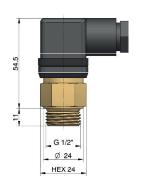
According to the cooler type and size, our temperature switches fit on all coolers and connectors with BSP $\frac{1}{2}$ " threads. Please contact us for the compatibility of the products. IP69K switch types (ILLZTH5069K, ILLZTH6069K and ILLZTH9069K) work in combination with our temperature control units ILLZTC12-2K (12V) and also with ILLZTC24-2K (24V). This is a simple on/off mode, according to the switch temperature. The control unit benefit is the soft start curve, extending the life time of the fan motor.

On request we offer various other bi-metal temperature switches with different temperature settings, protection classes and connection makes.

Protection IP69k



Protection IP65







Technical Data

order number	description	connection	protection	switch temperature	differential	weight
				[°C]	[°C]	[kg]
ILLZTH5069K	temperature switch 50°C	AMP superseal 1,5	IP69K	50 ± 5	10 ± 5	0,10
ILLZTH6069K	temperature switch 60°C	AMP superseal 1,5	IP69K	60 ± 5	10 ± 5	0,10
ILLZTH9069K	temperature switch 90°C	AMP superseal 1,5	IP69K	90 ± 5	10 ± 5	0,10
ILLZTH4765K	temperature switch 50°C	ISO 4400	IP 65	50 ± 5	10 ± 5	0,09
ILLZTH6065K	temperature switch 60°C	ISO 4400	IP 65	60 ± 5	10 ± 5	0,09

Characteristics

screw part material	brass
mounting	any position
max. tightening torque	40Nm
number of cycles	100.000
counter connector	included

Ambient Conditions

oil temperature range	-20°C to +100°C	
ambient temperature range	-20°C to +80°C	
storage temperature range	−60°C to 110°C	

Combinations

all coolers and connectors with BSP ½" threads

Measurement Output

contact	N.O. (normal open)
minimum current	200mA
maximum current	12V AC: 10A
	24V AC: 10A
	120V AC: 12A
	230V AC: 10A
Use power relay for switching!	

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