

DOL 278T Emergency Opening Temperature Controlled Technical Info



1 Product description

DOL 278T is an advanced emergency opening unit providing optimum safety in connection with technical failures. This is achieved by means of a separate temperature sensor and manual setting of the temperature limit for emergency opening. DOL 278T opens only as much as needed.

DOL 278T is specially designed for harsh livestock house environments. This applies to both climatic and electrical influences. The system has a built-in 24 VDC motor power supply unit, maintenance-free battery and charger.

DOL 278T regulates every three minutes. If the house temperature exceeds the setting of the temperature button by e.g. one degree, the shutters open only for a few seconds every three minutes. If the house temperature exceeds the setting of the temperature button by e.g. six degrees, the shutters open for several seconds every three minutes.

With its own outside temperature sensor DOL 278T takes high summer temperatures into consideration. Thus, when the house is already open due to summer temperatures, the DOL 278T does not trigger an emergency opening alarm.

DOL 278T and its settings are monitored by the house controller. It triggers an alarm, for example if DOL 278T's temperature button for emergency opening has been set too high or if the battery voltage is too low.

Emergency operation the first 3 minutes after supply voltage is restored

If the supply voltage is interrupted DOL 278T takes over the control system from the house controller and DOL 278T can open the shutters if necessary (emergency operation). When the supply voltage returns and the house controller starts up again, there will be a risk of heat loss during cold periods (outside temperature of less than 20°C) when shutters are opened during start-up.

To lower this heat loss the DOL 278T controls the winch motors during the first 3 minutes after the supply voltage is restored, while the house controller starts up again. After this period the house controller resumes control.

On the other hand, during hot periods (outside temperature over 20°C) the DOL 278T makes sure that the climate control is restored as soon as possible by starting the fans as the house controller starts up.

DOL 278T in warm climates/Combi-Tunnel

When DOL 278T is used with a Combi-Tunnel house controller the jumper is to be set to **WARM**, so that unwanted emergency opening is avoided when the house controller runs in tunnel mode.

The following occurs when DOL 278T is set to **WARM**:

- Emergency opening is not triggered for high livestock house temperatures at outside temperatures over 20°C.
- Emergency opening is still triggered at power failure.
- At outside temperatures below 20°C the DOL 278T works as normal.

DOL 278T in normal climate

The following occurs when DOL 278T is set to **NORM**:

- Emergency opening is triggered even if the outside temperature is over 20°C.
- Emergency opening is still triggered at power failure.

Parallel connection for 12.2 A or 16 A current consumption

If more than 8 A current consumption is required, the DOL 278T can be connected in parallel with a DOL 278 ON/OFF of 4.2 A or 8 A. See section Parallel connection for 12.2 A or 16 A current consumption.

A mini UPS Mini Power unit is available as an accessory. This unit enables the house controller to regulate ventilation for a short period during a power failure so that emergency control via the emergency opening unit does not need to take over. The mini UPS module can be connected to an alarm system so that alarms will be generated when the module is active.

2 Product survey



134692 DOL 278AMT-1 EmergencyOpen Temp Medium 4.2A

Temperature-controlled emergency opening in a one-house version.

Max. power consumption: 4.2 A

Battery: 4 Ah

Two temperature sensors are included (1 inside temperature sensor + 1 outside temperature sensor).



134693 DOL 278AMT-2 EmergencyOpen Temp Medium 4.2A

Temperature-controlled emergency opening in a two-house version.

Max. power consumption: 4.2 A

Battery: 4 Ah

Three temperature sensors are included (2 inside temperature sensors + 1 outside temperature sensor).



134694 DOL 278ALT-1 EmergencyOpen Temp Large 8A

Temperature-controlled emergency opening in a one-house version.

Max. power consumption: 8 A

Battery: 7 Ah

Two temperature sensors are included (1 inside temperature sensor + 1 outside temperature sensor).



134695 DOL 278ALT-2 EmergencyOpen Temp Large 8A

Temperature-controlled emergency opening in a two-house version.

Max. power consumption: 8 A

Battery: 7 Ah

Three temperature sensors are included (2 inside temperature sensors + 1 outside temperature sensor).



134792 Mini-UPS, Mini-Power, Universal

Five minutes' battery backup of house controller via emergency opening battery.

For fitting or retrofitting in an emergency opening unit.

Used in areas where 230V mains failures frequently occur.

Use one Mini UPS per house controller.

Two Mini UPS can be mounted in an emergency opening unit.

134784 DOL 278 connecting cable 354 cm

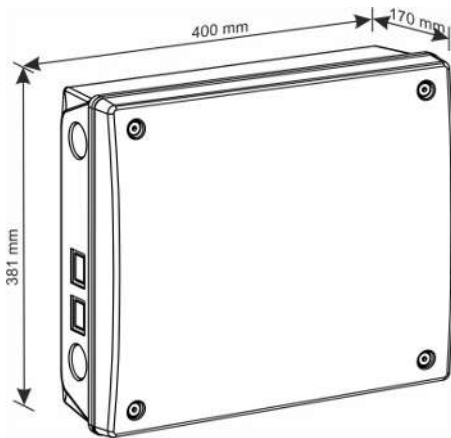
The cable is used to connect the emergency opening to the house controller if the supplied 134 cm cable is not long enough.

3 Technical data

		DOL 278T-1 Medium DOL 278T-2 Medium	DOL 278T-1 Large DOL 278T-2 Large
Electrical			
Rated voltage	[V AC]	100 – 115 / 200 – 230 ±10 %	
Operating voltage	[V AC]	90 – 126,5 / 180 - 253	
Frequency	[Hz]	50/60	
Output voltage mains operation	[V AC]	24 ± 30 %	
Output voltage battery operation	[V DC]	16-20	
Max. motor current	[A]	4.2	8
(E.g. 2 houses with each 2.1 A on one DOL 278T. Simultaneous motor operation in both houses is acceptable for max. 20 % of the time and for 10 minutes at a time).			
(E.g. 1 house with 4.2 A on one DOL 278T. Motor operation is acceptable for max. 20 % of the time and for 10 minutes at a time).			
Battery standby charge voltage	[V]	20.3	
Battery charge current max.	[A]	1.0	
Battery fuse (blue “car type” fuse with flat type connector)	[A]	15	
Battery lamp level	[V]	Green approx. > 80 % Yellow approx. 80-20 % Red approx. < 20 %	
Battery module, gastight lead, VRLA type		18 V 4 Ah (3 x 6V 4Ah)	18 V 7Ah (3 x 6V 7Ah)
Phase break approx.		5 sec.	10 sec.
Regulation interval		3 min.	
Opening period when DOL 12 is disconnected		2 min. 12 sec. / 4 min.: 24 sec.	
Opening period at 1 °C excess temperature		2 min.: 6 sec. / 4 min.: 12 sec.	
Opening period at 10 °C excess temperature		2 min.: 60 sec. / 4 min.: 120 sec.	
Max. DOL 278T operating time on battery (before opening)		8 hours	16 hours
Temperature sensor inputs DOL 278T-1		2 × DOL 12	
Relay outputs +24 V time-modulated DOL 278T-1		2 × 24 V	
Temperature sensor inputs DOL 278T-2		3 × DOL 12	
Relay outputs +24 V time-modulated DOL 278T-2		4 × 24 V	
Fuse per 24 V relay output	[A]	7.5	

		DOL 278T-1 Medium DOL 278T-2 Medium	DOL 278T-1 Large DOL 278T-2 Large
Environment			
Operating temperature	°C (°F)	-10 to +45 (+14 to +113)	
Storage temperature	°C (°F)	-25 to +60 (-13 to +140)	
Protection class	IP	54 (splash-proof) It is assumed that the base surface is flat, i.e. ≤ there is a 1.5 mm difference in height, and the front panel screw is tightened to a minimum of 1.5 Nm. 1.5 Nm.	
Immunity		Electromagnetic compatibility (EMC) - Part 6-2: Generic standards - Immunity standard for industrial environments IEC 61000-6-2	
Emission		Electromagnetic compatibility (EMC) – Part 6-4: Generic standards – Emission standard for industrial environments IEC 61000-6-4	
Shipment			
Cable knockouts		20 x M25 For metrical cable glands	
Dimensions (H x W x D)	[mm]	381 x 400 x 170	
Dimensions crated H x W x D	[mm]	425 x 555 x 195	
Weight	[g]	8500	9000
Shipping weight	[g]	10000	11000

3.1 Dimensioned sketch



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