OJ Winterline®

ETOP-4770

QUICK GUIDE

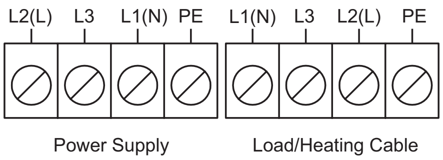
67692C 08 /19 AML

- **English**
- US English
- Français Canadian
- Español Mexicano

1 INTRODUCTION

The ETOP is a controller designed for high weather resistance, IP66 / NEMA 4X. It is simple to set up and even simpler to use.

2 TERMINAL CONNECTIONS



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2.1 Power Supply

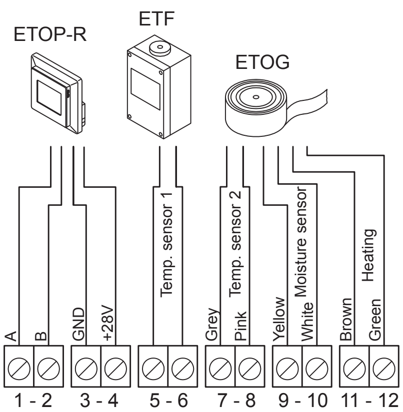
EU	3~ 230/400 VAC, ~230 VAC ±10%, 50 Hz
US/CAN:	3~ 120/208 VAC, 3~277/480 VAC, ~ 120/240 VAC ±10%, 60 Hz

2.2 Load/heating cable

EU	US/CAN
3 x 6900W at 3~ 230/400 VAC, 3 x 30A	3 x 8310W at 3~ 277/480 VAC, 3 x 30A
6900W at ~ 230VAC, 30A	3 x 3600W at 3~ 120/208 VAC, 3 x 30A
	3600W at ~ 120 VAC, 30A
	7200W at ~ 240 VAC, 30A

2.3 Sensor Connections

2.3.1 Terminal Connections ETOG, ETOP-R, ETF



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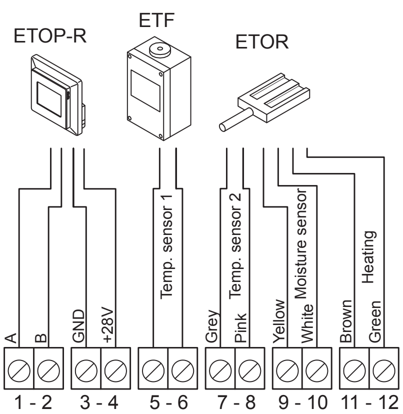
2.3.2 Terminal Connections ETOR, ETOP-R, ETF



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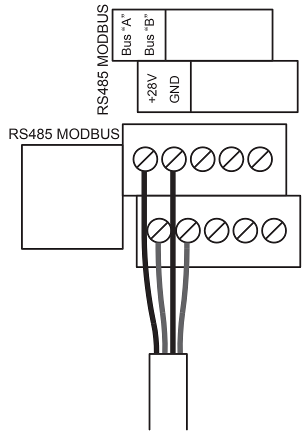
2.4 ETOP-R remote through Modbus

2.4.1 Connecting Modbus using screw terminals



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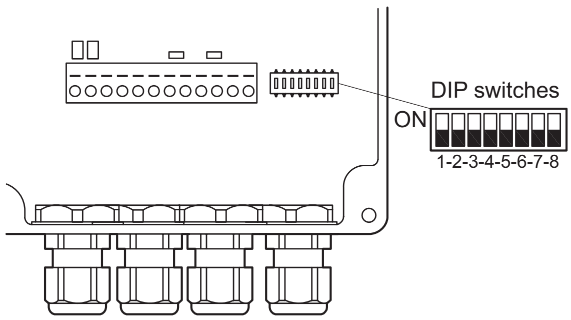
3 DIP SWITCHES



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3.1 Forced heating and afterrun time: DIP switches 1-4 (minimum 2 hours)

All DIP switch settings here can be combined for the afterrun as required.
DIP 1-4 = off: 2 hours minimum afterrun time.
DIP 1 = on: +1 hour to min. afterrun time (2+1)
DIP 2 = on: +2 hour to min. afterrun time (2+2)
DIP 3 = on: +4 hour to min. afterrun time (2+4)
DIP 4 = on: +8 hour to min. afterrun time (2+8)
DIP 1-4 = on: 17 hours maximum afterrun time (2+1+2+4+8=17hours.)

3.2 Moisture Sensor Type: DIP switch 5

Choose the sensor type, used in the system.
DIP 5 = off: ETOG sensor
DIP 5 = on: ETOR sensor

3.3 Moisture Sensor Sensitivity: DIP switches 7-8

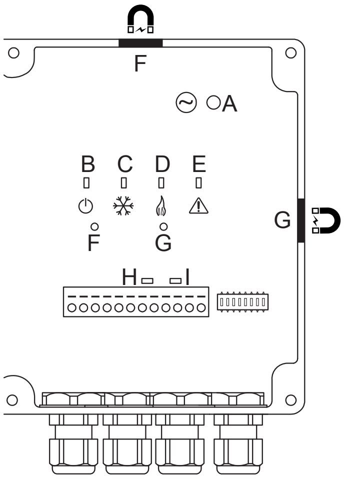
Choose the required sensitivity as a combination of DIP switch 7 and 8.
DIP 7 = off and DIP 8 = off: Minimum
DIP 7 = on and DIP 8 = off: Low
DIP 7 = off and DIP 8 = on: Normal
DIP 7 = on and DIP 8 = on: Maximum

Note: DIP switch 6: NOT USED

3.4 Recommended Settings

DIP	ON / OFF Setting	Description
1	OFF	Afterrun time: 2 + 8 = 10 hours
2	OFF	
3	OFF	
4	ON	
5	OFF	Moisture sensor type: ETOG sensor
6	Not used	
7	OFF	Moisture sensor sensitivity: Normal
8	ON	

4 OPERATIONS
4.1 LED Overview



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4.2 General Operation Mode and Test Mode
Push buttons and magnetic sensors have equivalent functions.

Push button	Magnetic sensor	LED
⏻	Top	⏻ Flashes for 2 sec.
🔥	Right side	🔥 Flashes for 2 sec.

●	LED ON
✺	LED Flashing
×	Power ON

		Operation mode	Test Mode
Symbol /LED colour	**LED**	**Function**	**Function**
A ~ Green LED	●	Power connected	Power connection
B ⏻ Green LED	●	System active	System active
C ❄ Green LED	●	Temperature within specified range	Internal temp sensor within specified range
D 🔥 Green LED	●	Heating active	External temp sensor 1 within specified range
	✺	Forced heat active	NA
E ⚠ Red LED	●	Error detected	NA
	✺	Test mode active	Test mode active
F ⏻ Button or top magnetic sensor		System ON / OFF Start: Push / swipe Stop: Hold for 3 sec.	Test mode Start: Push / swipe Stop: Hold for 3 sec.
G 🔥 Button or right-side magnetic sensor		Forced heat Start: Push / swipe Stop: Hold for 3 sec.	Test mode Start: Push / swipe Toogle: Push / swipe
H ● Green LED	●	NA	External temp sensor 2 within specified range
I ● Green LED	●	NA	Sensor detects moist
	✺	NA	Sensor does not detect moist

4.3 Activate Test Mode

	Buttons	Magnetic sensors
Start test mode by	Pushing ⏻ 🔥 ⏻ 🔥	Swiping magnet
Toggle through test mode status by	Pushing 🔥 button	Swiping magnet on right-side magnetic sensor
Exit test mode at any time by	Pushing ⏻ button for 3 sec.	Holding magnet on top magnetic sensor for 3 sec.

	A ~	B ⏻	C ❄	D 🔥	E ⚠	H ●	I ●	Heating Element	
								Moist	Relay
Idle State	●	●			✺				
Detecting State	●	●			✺		●	×	
Melting State	●	●	●		✺			×	×
Afterrun State	●	●		●	✺				×
Forced Heat State	●	●			✺	●			×
Moist testing	●	●			✺		✺ ●	×	
T1, Internal temp. sensor	●	●	●		✺		✺		
T2 –External temp. sensor 1	●	●		●	✺		✺		
T3 – External temp. sensor 2	●	●			✺	●	✺		

5 APPROVALS AND STANDARDS
5.1 Regulations
OJ Electronics A/S hereby declares that the product is in conformity with the following directives of the European Parliament:
LVD - Low Voltage Directive
EMC - Electromagnetic Compatibility
RoHS - Restriction of the use of certain Hazardous Substances
WEEE - Waste Electrical and Electronic Equipment Directive

5.2 Standards and Approvals Applied
EU: EN 60730-1, EN 60730-2-9
US: UL 60730-1, UL 60730-2-9
Canada: CAN/CSA E60730-1, CAN/CSA E60730-2-9

c UL us LISTED

6 TECHNICAL SPECIFICATIONS

Purpose of control	Electrical Ice and snow melting
Method of mounting.	Wall mounting
Supply voltage	EU 3~ 240/400 VAC, ±10% 50 Hz ~ 230 VAC, ±10% 50 Hz US/CAN 3~ 120/208 VAC, ±10% 60 Hz 3~ 277/480 VAC, ±10% 60 Hz ~ 120/240 VAC, ±10% 60 Hz
Max. pre-fuse	EU 32 A US/CAN 30 A
Enclosure rating	IP 66
Nema Class	4X
Wire size, terminals (power in/out)	0.75-10 mm^2 / 20 AWG – 4 AWG
Wire size, terminals (low voltage)	0.2-2.5 mm^2 / 24 AWG – 12 AWG
Cable size, MS 13.5 glands (signal, Modbus)	5-12 mm
Cable size, MS16 glands (mains, load)	8-14 mm
Output voltage to remote control panel	28 VDC, 35mA
Output voltage to heating element for moist sensor	28 VDC, 125mA
Max. Load/supply	EU 3x6900W at 3~ 230/400 VAC, 3x30A 6900W at ~ 230 VAC, 30A US/CAN 3x8310W at 3~ 277/480 VAC, 3x30A 3x3600W at 3~ 120/208 VAC, 3x30A 3600W at ~ 120 VAC, 30A 7200W at ~ 240 VAC, 30A
Standby consumption	approx. 1.25 W @ 230 VAC
Ambient air humidity	10-95% non condensing
Ambient operating temp.	-50/+50°C (-58/+122 °F)
Control temperature range	-30/+30°C (-22/+86 °F)
Storage/transport temp.	-50/+70°C (-58/+158 °F)
Dimensions	H/162, W/252, D/90 mm H/6.38, W/9.92, D/3.40 in
Weight	1,500 g
Control pollution degree	2
Overvoltage category	III
Type of action	1.B
Software class	A
Rated impulse voltage	4kV
Ball pressure temperature (TB)	125°C
Classification	Class I

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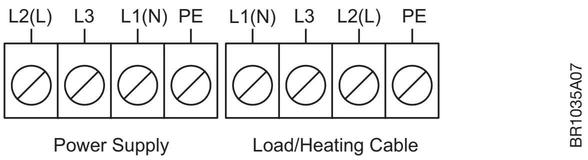

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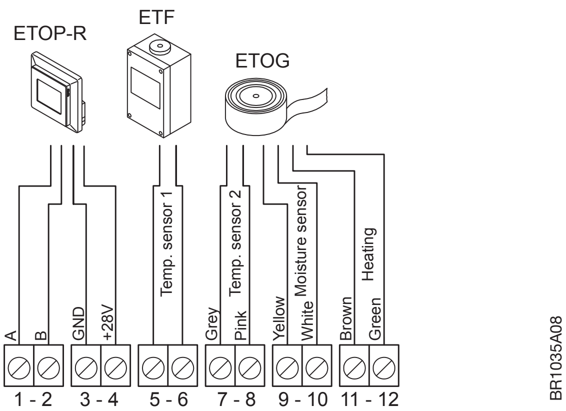

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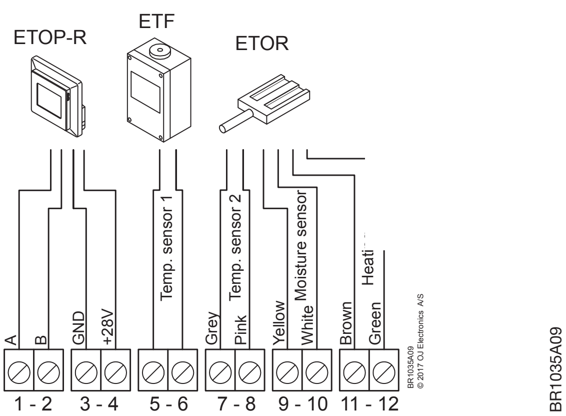

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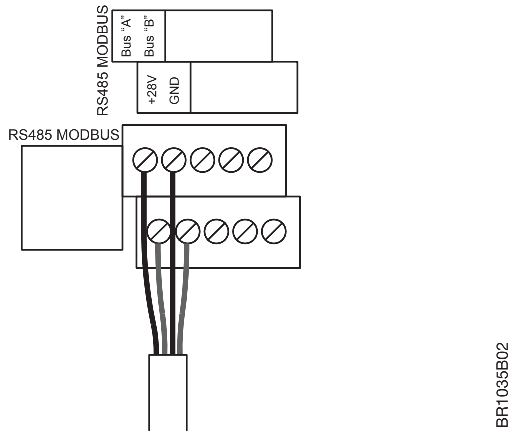

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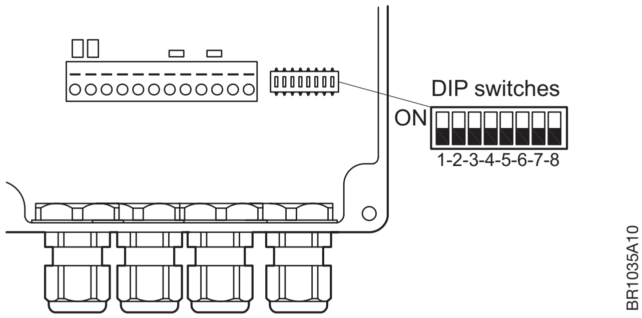

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3	OFF	
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7	OFF	Moisture sensor sensitivity: Normal
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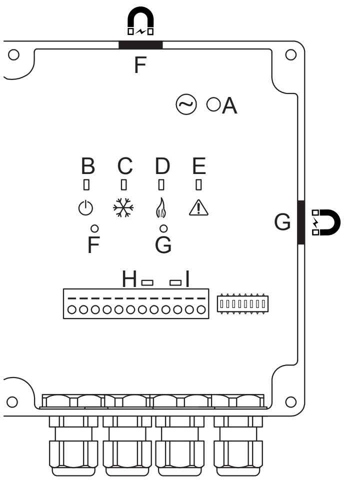

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(flame)	Right side	(flame) Flashes for 2 sec.

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E ⚠ Red LED	●	Error detected	NA
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G (flame) button or right-side magnetic sensor		Forced heat Start: Push / swipe Stop: Hold for 3 sec.	Test mode Start: Push / swipe Toggle: Push / swipe
H ● Green LED	●	NA	External temp. sensor 2 within specified range
I ● Green LED	●	NA	Sensor detects moist
	✹	NA	Sensor does not detect moist

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Start test mode by	Pushing ⏻ (flame) ⏻ (flame)	Swiping magnet
Toggle through test mode status by	Pushing (flame) button	Swiping magnet on right side magnetic sensor
Exit test mode at any time by	Pushing ⏻ button for 3 sec.	Holding magnet on top magnetic sensor for 3 sec.

	A ~	B ⏻	C ❄	D (flame)	E ⚠	H ●	I ●	Heating Element Moist	Heating Element Relay
Idle State	●	●			✹				
Detecting State	●	●			✹		●	×	
Melting State	●	●	●		✹			×	×
Afterrun State	●	●		●	✹				×
Forced Heat State	●	●			✹	●			×
Moist Testing	●	●			✹		✹ ●	×	
T1, Internal temp. sensor	●	●	●		✹		✹		
T2 – External temp. sensor 1	●	●		●	✹		✹		
T3 – External temp. sensor 2	●	●			✹	●	✹		

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Enclosure rating	IP 66
Nema Class	4X
Wire size, terminals (power in/out)	0.75-10 mm² / 20 AWG – 4 AWG
Wire size, terminals (low voltage)	0.2-2.5 mm² / 24 AWG – 12 AWG
Cable size, MS 13.5 glands (signal, Modbus)	5-12 mm
Cable size, MS16 glands (mains, load)	8-14 mm
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Output voltage to heating element for moist sensor	28 VDC, 125mA
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Ambient air humidity	10-95% non condensing
Ambient operating temp.	-50/+50°C (-58/+122 °F)
Control temperature range	-30/+30°C (-22/+86 °F)
Storage/transport temp.	-50/+70°C (-58/+158 °F)
Dimensions	H/162, W/252, D/90 mm H/6.38, W/9.92, D/3.40 in
Weight	1,500 g
Control pollution degree	2
Overvoltage category	III
Type of action	1.B
Software class	A
Rated impulse voltage	4kV
Ball pressure temperature (TB)	125°C
Classification	Class I

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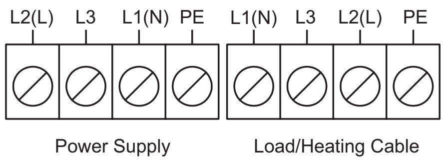
1 INTRODUCTION

Le ETOP est un contrôleur conçu pour la résistance aux intempéries, IP66/NEMA 4X. Il est simple à configurer et encore plus simple à utiliser.

2 CONNEXIONS SUR BORNIER



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2.1 Alimentation électrique

UE 3~ 230/400 V CA, ~230 V CA ±10 %, 50 Hz

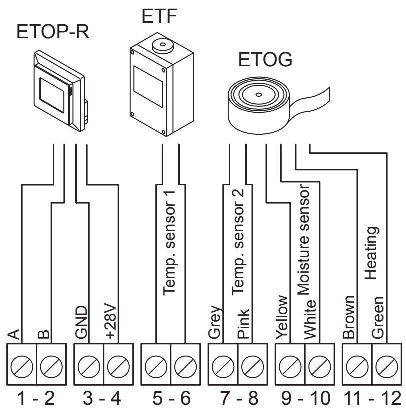
US/CAN : 3~ 120/208 V CA, 3~277/480 V CA, ~ 120/240 V CA ±10 %, 60 Hz

2.2 Charge/câble chauffant

UE	US/CAN
3 x 6900 W à 3~ 230/400 V CA, 3 x 30 A	3 x 8310 W à 3~ 277/480 V CA, 3 x 30 A
6900 W à ~ 230VAC, 30 A	3 x 3600 W à 3~ 120/208 V CA, 3 x 30 A
	3600 W à ~ 120 V CA, 30 A
	7200 W à ~ 240 V CA, 30 A

2.3 Connexions des capteurs

2.3.1 Connexions sur bornier ETOG, ETOP-R, ETF



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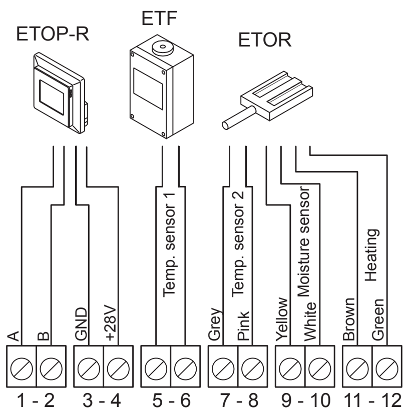
2.3.2 Connexions sur bornier ETOR, ETOP-R, ETF



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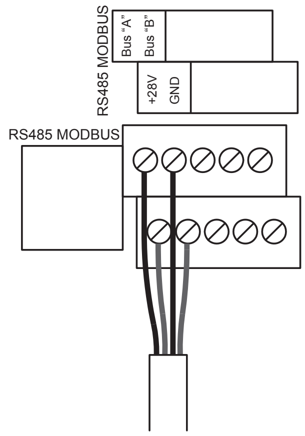
2.4 ETOP-R à distance par Modbus

2.4.1 Connecter Modbus à l'aide de bornes à vis



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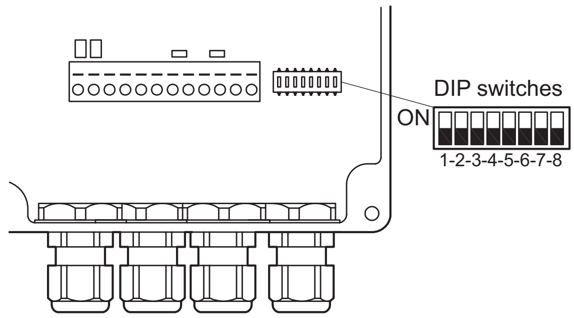
3 COMMUTATEURS DIP



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3.1 Chauffage forcé et temps après le fonctionnement : Commutateurs DIP 1 à 4 (minimum 2 heures)

Tous les réglages des commutateurs DIP peuvent être combinés pour
DIP 1 à 4 = désactivé : 2 heures minimum de durée d'activation après arrêt.
DIP 1 = activé : +1 heure à durée min. d'activation après arrêt (2+1)
DIP 2 = activé : +2 heure à durée min. d'activation après arrêt (2+2)
DIP 3 = activé : +4 heure à durée min. d'activation après arrêt (2+4)
DIP 4 = activé : +8 heure à durée min. d'activation après arrêt (2+8)
DIP 1 à 4 = activé : 17 heures de durée max. d'activation après arrêt (2+1+2+4+8=17hours.)

3.2 Type de capteur d'humidité : Commutateur DIP 5

Choisir le type de capteurs utilisé dans le système.
DIP 5 = désactivé : Capteur ETOG
DIP 5 = activé : Capteur ETOR

3.3 Sensibilité du capteur d'humidité : Commutateur DIP 7 et 8

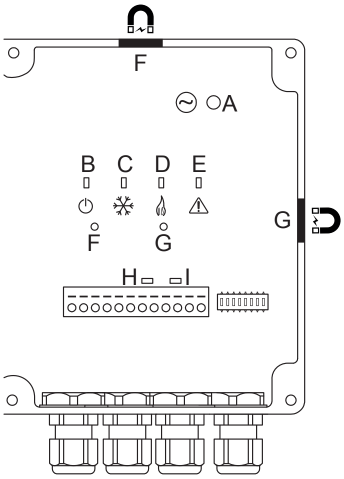
Choisir la sensibilité requise comme combinaison des commutateurs DIP 7 et 8.
DIP 7 = désactivé et DIP 8 = désactivé : Minimum
DIP 7 = activé et DIP 8 = désactivé : Faible
DIP 7 = désactivé et DIP 8 = activé : Normal
DIP 7 = activé et DIP 8 = activé : Maximum

Remarque : Commutateur DIP 6: NON UTILISÉ

3.4 Réglages recommandés

DIP	Réglage ACT. / DÉSACT.	Description
1	DÉSACTIVÉ	Durée d'activation après arrêt : 2 + 8 = 10 heures
2	DÉSACTIVÉ	
3	DÉSACTIVÉ	
4	ACTIVÉ	
5	DÉSACTIVÉ	Type de capteur d'humidité : Capteur ETOG
6	Non utilisé	
7	DÉSACTIVÉ	Sensibilité du capteur d'humidité : Normale
8	ACTIVÉ	

4 OPÉRATIONS
4.1 Aperçu des DEL



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4.2 Mode général d'opération et mode test
Les boutons poussoirs et les capteurs magnétiques ont des fonctions équivalentes.

Boutons poussoir	Capteur magnétique	DEL
⏻	Supérieur	⏻ Clignote pendant 2 s.
🔥	Côté droit	🔥 Clignote pendant 2 s.

●	DEL allumée
✹	DEL clignotante
✕	Appareil sous tension

		Mode d'opération	Mode test
Symbole/Couleur de DEL	**DEL**	**Fonction**	**Fonction**
A ~ DEL verte	●	Alimentation raccordée	Raccordement électrique
B ⏻ DEL verte	●	Système activé	Système activé
C ❄ DEL verte	●	Température dans la plage spécifiée	Capteur de température interne dans la plage spécifiée
D 🔥 DEL verte	●	Chauffage activé	Capteur 1 de température externe dans la plage spécifiée
	✹	Chauffage forcé activé	S.O
E ⚠ DEL rouge	●	Erreur détectée	S.O
	✹	Mode test activé	Mode test activé
F ⏻ Bouton ou capteur magnétique supérieur		Système ACT. /DÉSACT. Démarrage : Pousser/ balayer Arrêt : Maintenir pendant 3 s.	Mode test Démarrage : Pousser/ balayer Arrêt : Maintenir pendant 3 s.
G 🔥 Bouton ou capteur magnétique droit		Chauffage forcé Démarrage : Pousser/ balayer Arrêt : Maintenir pendant 3 s.	Mode test Démarrage : Pousser/ balayer Basculer : Pousser/balayer
H ● DEL verte	●	S.O	Capteur 2 de température externe dans la plage spécifiée
I ● DEL verte	●	S.O	Le capteur détecte l'humidité
	✹	S.O	Le capteur ne détecte pas l'humidité

4.3 Activer le mode test

	Boutons	Capteurs magnétiques
Démarrer le mode test en	Pouissant ⏻ 🔥 ⏻ 🔥	Glissant l'aimant
Basculant entre les statuts du mode test en	Pouissant le bouton 🔥	Glissant l'aimant sur le capteur magnétique droit
Sortir du mode test en tout temps en	Pouissant le bouton ⏻ pendant 3 s.	maintenant le capteur magnétique supérieur pendant 3 s.

	A ~	B ⏻	C ❄	D 🔥	E ⚠	H ●	I ●	Élément chauffant Humide	Élément chauffant Relais
État de veille	●	●			✹				
État de détection	●	●			✹		●	✕	
État de fonte	●	●	●		✹			✕	✕
État d'activation après arrêt	●	●		●	✹				✕
État de chauffage forcé	●	●			✹	●			✕
Tests d'humidité	●	●			✹		✹ ●	✕	
T1, capteur de température interne	●	●	●		✹		✹		
T2, capteur 1 de température externe	●	●		●	✹		✹		
T3, capteur 2 de température externe	●	●			✹	●	✹		

5 AUTORISATIONS ET NORMES
5.1 Règlements
OJ Electronics A/S déclare par la présente que le produit est conforme aux directives suivantes du Parlement européen :
LVD - Directive de tension basse
EMC – Compatibilité électromagnétique
RoHS – Restriction de l'usage de certaines substances dangereuses
WEEE – Directive de l'équipement électronique et des déchets électriques

5.2 Autorisations et normes en vigueur
UE : EN 60730-1, EN 60730-2-9
US : UL 60730-1, UL 60730-2-9
Canada : CAN/CSA E60730-1, CAN/CSA E60730-2-9

CE c UL US LISTED EAC

6 SPÉCIFICATIONS TECHNIQUES

Objectif du contrôle	Fonte électrique de la glace et de la neige
Méthode d'installation.	Installation murale
Tension d'alimentation	UE 3~ 240/400 V CA, ±10 % 50 Hz ~ 230 V CA, ±10 % 50 Hz US/CAN 3~ 120/208 V CA, ±10 % 60 Hz 3~ 277/480 V CA, ±10 % 60 Hz ~ 120/240 V CA, ±10 % 60 Hz
Préfusible max.	UE 32 A US/CAN 30 A
Norme du boîtier	IP 66
Classe Nema	4 X
Dimensions fils borne (entrée/sortie d'alimentation)	0,75 à 10 mm² / 20 AWG à 4 AWG
Dimensions fils borne (basse tension)	0,2 à 2,5 mm² / 24 AWG à 12 AWG
Dia. câbles, passe-câbles MS 13,5 (signal, Modbus)	5 à 12 mm
Dia. câbles, passe-câbles MS16 (secteur, charge)	8 à 14 mm
Tension de sortie au panneau de contrôle à distance	28 V CC, 35 mA
Tension de sortie à l'élément chauffant pour le capteur d'humidité	28 V CC, 125 mA
Charge d'alimentation max	UE 3x6900 W à 3~ 230/400 V CA, 3x30 A 6900 W à ~ 230 V CA, 30 A US/CAN 3x8310 W à 3~ 277/480 V CA, 3x30 A 3X3600 W à 3~ 120/208 V CA, 3x30 A 3600 W à ~ 120 V CA, 30 A 7200 W à ~ 240 V CA, 30 A
Consommation en veille	approx. 1,25 W @ 230 V CA
Humidité de l'air ambiant	10 à 95 % (sans condensation)
Plage de température ambiante	-50/+50 °C (-58/+122 °F)
Plage de température	-30/+30 °C (-22/+86 °F)
Température d'entreposage/transport	-50/+70 °C (-58/+158 °F)
Dimensions	H/162, L/252, P/90 mm H/6,38, L/9,92, P/3,40 po
Poids	1500 g
Degré de contrôle de la pollution	2
Catégorie de surtension	III
Type de mesure	1.B
Classe de logiciel	A
Tension de choc transitoire	4 kV
Température d'essai de bille à pression (TB)	125 °C
Classification	Classe I

OJ Winterline®

ETOP-4770

GUÍA RÁPIDA

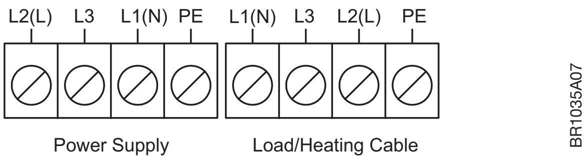
67692C 08 /19 AML

- English
- US English
- Français Canadian
- **Español Mexicano**

1 INTRODUCCIÓN

El ETOP es un controlador diseñado para ofrecer alta resistencia a cualquier tipo de clima; IP66 / NEMA 4X. Es fácil de configurar y aún más fácil de usar.

2 CONEXIONES TERMINALES



2.1 Alimentación

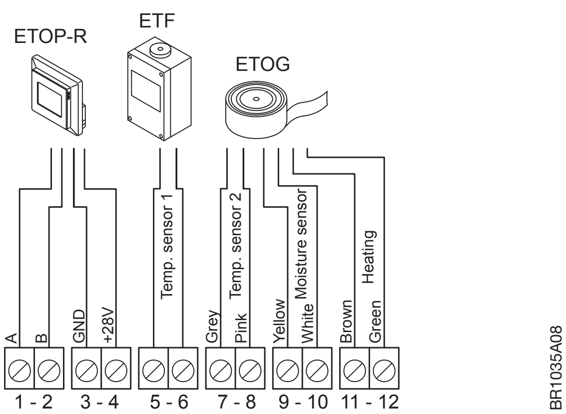
UE	3~ 230/400 VCA, ~230 VCA ±10 %, 50 Hz
EE.UU./CAN:	3~ 120/208 VCA, 3~277/480 VCA, ~ 120/240 VCA ±10 %, 60 Hz

2.2 Cable de carga/calefacción

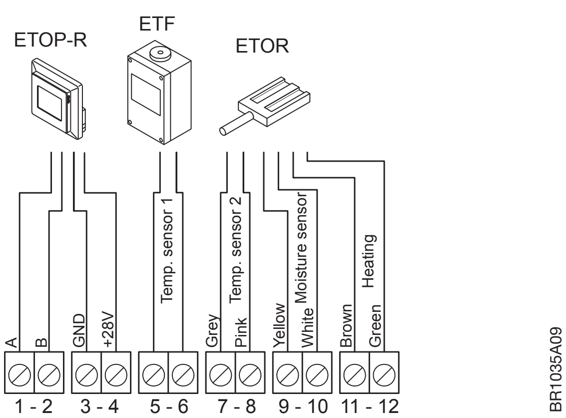
UE	EE.UU./CAN
3 x 6900 W a 3~ 230/400 VCA, 3 x 30 A	3 x 8310 W a 3~ 277/480 VCA, 3 x 30 A
6900 W a ~ 230 VCA, 30 A	3 x 3600 W a 3~ 120/208 VCA, 3 x 30 A
	3600 W a ~ 120 VCA, 30 A
	7200 W a ~ 240 VCA, 30 A

2.3 Conexiones de los sensores

2.3.1 Conexiones terminales ETOG, ETOP-R, ETF

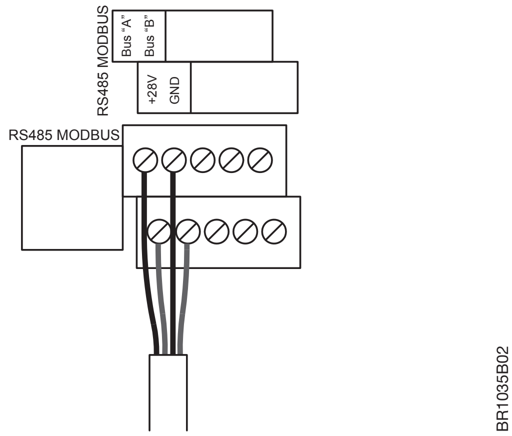


2.3.2 Conexiones terminales ETOR, ETOP-R, ETF

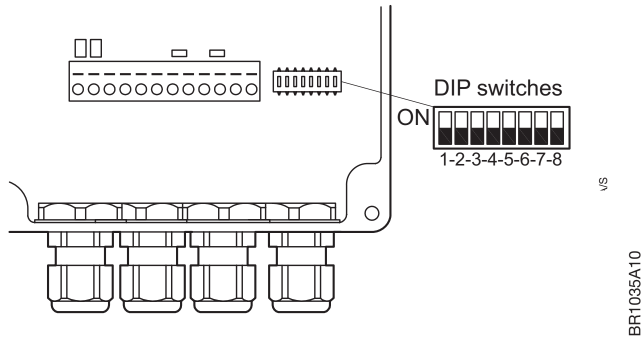


2.4 ETOP-R remoto mediante Modbus

2.4.1 Conexión del Modbus mediante clemas de conexión



3 INTERRUPTORES DIP



3.1 Calefacción forzada y tiempo de post-funcionamiento: Interruptores DIP 1-4 (mínimo 2 horas)

Todos los interruptores DIP presentes pueden combinarse para el post-funcionamiento según se requiera.

DIP 1-4 = apagados: 2 horas mínimo de tiempo de post-funcionamiento.
DIP 1 = encendido: +1 hora al mínimo de tiempo de post-funcionamiento (2+1)
DIP 2 = encendido: +2 horas al mínimo de tiempo de post-funcionamiento (2+2)
DIP 3 = encendido: +4 horas al mínimo de tiempo de post-funcionamiento (2+4)
DIP 4 = encendido: +8 horas al mínimo de tiempo de post-funcionamiento (2+8)
DIP 1-4 = encendidos: 17 horas máximo de tiempo de post-funcionamiento (2+1+2+4+8=17 horas).

3.2 Tipo de sensor de humedad: Interruptor DIP 5

Seleccione el tipo de sensor, usado en el sistema.
DIP 5 = apagado: Sensor ETOG
DIP 5 = encendido: Sensor ETOR

3.3 Sensibilidad del sensor de humedad: Interruptores DIP 7-8

Seleccione la sensibilidad requerida como una combinación de los interruptores DIP 7 y 8.
DIP 7 = apagado y DIP 8 = apagado: Mínima
DIP 7 = encendido y DIP 8 = apagado: Baja
DIP 7 = apagado y DIP 8 = encendido: Normal
DIP 7 = encendido y DIP 8 = encendido: Máxima

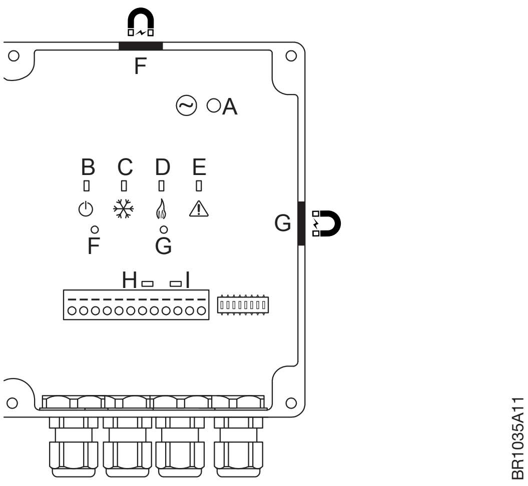
Nota: Interruptor DIP 6: NO USADO

3.4 Configuraciones recomendadas

DIP	Configuración ENCENDIDO / APAGADO	Descripción
1	APAGADO	Tiempo de post-funcionamiento: 2 + 8 = 10 horas
2	APAGADO	
3	APAGADO	
4	ENCENDIDO	
5	APAGADO	Tipo de sensor de humedad: Sensor ETOG
6	No usado	
7	APAGADO	Sensibilidad del sensor de humedad: Normal
8	ENCENDIDO	

4 OPERACIONES

4.1 Vista general de los diodos led



4.2 Modo de funcionamiento general y modo de prueba

Los botones y los sensores magnéticos tienen funciones equivalentes.

Botón	Sensor magnético	Led
⏻	Arriba	⏻ Parpadea durante 2 s
🔥	A la derecha	🔥 Parpadea durante 2 s

●	Led encendido
✹	Led intermitente
X	Alimentación encendida

		Modo de funcionamiento	Modo de prueba
Símbolo / Color del led	**Led**	**Función**	**Función**
A Led verde	●	Alimentación conectada	Conexión de la alimentación
B ⏻ Led verde	●	Sistema activo	Sistema activo
C Led verde	●	Temperatura dentro del rango especificado	Sensor de temp. interior dentro del rango especificado
D 🔥 Led verde	●	Calefacción activa	Sensor de temp. exterior 1 dentro del rango especificado
	✹	Calefacción forzada activa	NA
E ⚠ Led rojo	●	Error detectado	NA
	✹	Modo de prueba activo	Modo de prueba activo
F ⏻ Botón o sensor magnético de arriba		Sistema encendido / apagado Inicio: Apretar / deslizar Parada: Sostener durante 3 s	Modo de prueba Inicio: Apretar / deslizar Parada: Sostener durante 3 s
G 🔥 Botón o sensor magnético de la derecha		Calefacción forzada Inicio: Apretar / deslizar Parada: Sostener durante 3 s	Modo de prueba Inicio: Apretar / deslizar Alternar: Apretar / deslizar
H ● Led verde	●	NA	Sensor de temp. exterior 2 dentro del rango especificado
I ● Led verde	●	NA	El sensor detecta la humedad
	✹	NA	El sensor no detecta la humedad

4.3 Activar modo de prueba

	Botones	Sensores magnéticos
Iniciar modo de prueba	Apretando ⏻ 🔥 ⏻ 🔥	Deslizando el imán
Pasar al estado del modo de prueba	Apretando el botón 🔥	Deslizando el imán en el sensor magnético de la derecha
Salir del modo de prueba en cualquier momento	Apretando el botón ⏻ durante 3 s	Sosteniendo el imán en el sensor magnético de arriba durante 3 s

	A	B ⏻	C	D 🔥	E ⚠	H ●	I ●	Elemento calentador Humedad	Elemento calentador Relé
Estado neutro	●	●			✹				
Estado de detección	●	●			✹		●	X	
Estado de deshielo	●	●	●		✹			X	X
Estado de post-funcionamiento	●	●		●	✹				X
Estado de calefacción forzada	●	●			✹	●			X
Prueba de humedad	●	●			✹		✹ ●	X	
T1, sensor de temp. interior	●	●	●		✹		✹		
T2 –sensor de temp. exterior 1	●	●		●	✹		✹		
T3 –sensor de temp. exterior 2	●	●			✹	●	✹		

5 APROBACIONES Y NORMAS

5.1 Reglamentaciones

OJ Electronics A/S declara que el producto cumple con las siguientes directivas del Parlamento europeo:
LVD - Directiva de baja tensión
EMC - Compatibilidad electromagnética
RoHS - Restricción de uso de ciertas sustancias peligrosas
WEEE - Directiva de residuos de aparatos eléctricos y electrónicos

5.2 Normas y aprobaciones pertinentes

UE: EN 60730-1, EN 60730-2-9
EE.UU.: UL 60730-1, UL 60730-2-9
Canadá: CAN/CSA E60730-1, CAN/CSA E60730-2-9

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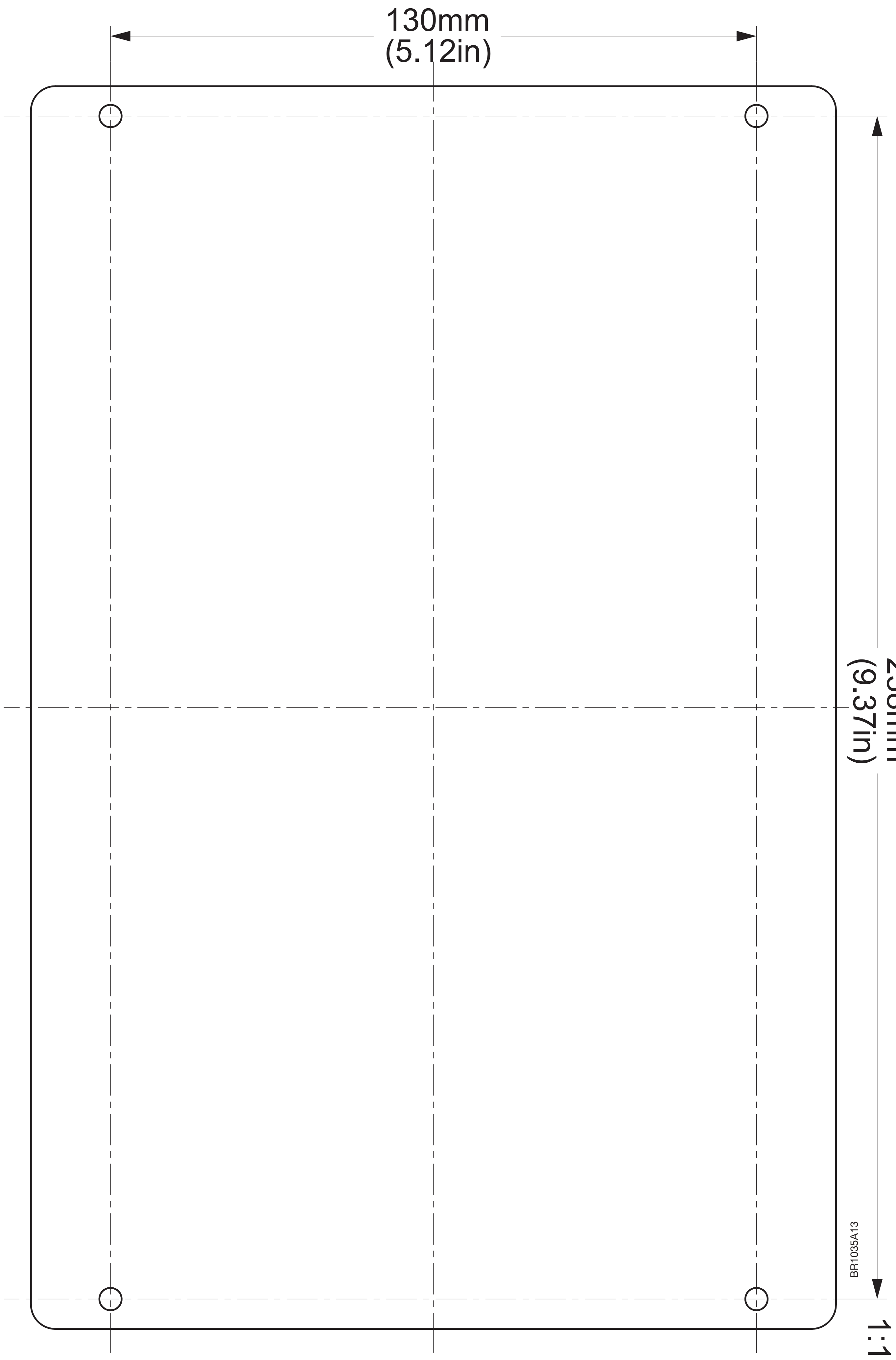
6 ESPECIFICACIONES TÉCNICAS

Propósito del control	Deshielo eléctrico
Método de montaje.	Montaje en pared
Tensión de alimentación	UE 3~ 240/400 VCA, ±10 % 50 Hz ~ 230 VCA, ±10 % 50 Hz EE.UU./CAN 3~ 120/208 VCA, ±10 % 60 Hz 3~ 277/480 VCA, ±10 % 60 Hz ~ 120/240 VCA, ±10 % 60 Hz
Pre-fusibles máx.	EU 32 A EE.UU./CAN 30 A
Grado de protección	IP 66
Clase Nema	4X
Dimensiones de los conductores, terminales (entrada/salida de alimentación)	0.75-10 mm² / 20 AWG – 4 AWG
Dimensiones de los conductores, terminales (baja tensión)	0.2-2.5 mm² / 24 AWG – 12 AWG
Dimensiones de los cables, pasamuros MS 13.5 (señal, Modbus)	5-12 mm
Cable size, pasamuros MS16 (red, carga)	8-14 mm
Tensión de salida al panel de control remoto	28 VCC, 35 mA
Tensión de salida al elemento calentador para el sensor de humedad	28 VCC, 125 mA
Máx. carga/alimentación	UE 3x6900 W a 3~ 230/400 VCA, 3x30 A 6900 W a ~ 230 VCA, 30 A EE.UU./CAN 3x8310 W a 3~ 277/480 VCA, 3x30 A 3x3600 W a 3~ 120/208 VCA, 3x30 A 3600 W a ~ 120 VCA, 30 A 7200 W a ~ 240 VCA, 30 A
Consumo en modo de espera	aprox. 1.25 W a 230 VCA
Humedad del aire ambiente	10-95 % sin condensación
Temp. ambiente de trabajo	-50/+50 °C (-58/+122 °F)
Control del rango de temperatura	-30/+30 °C (-22/+86 °F)
Temp. de almacenamiento/transporte	-50/+70 °C (-58/+158 °F)
Dimensiones	Alto/162, Ancho/252, Profundo/90 mm Alto/6.38, Ancho/9.92, Profundo/3.40 in
Peso	1500 g
Control del grado de contaminación	2
Categoría de sobretensión	III
Tipo de acción	1.B
Clase de software	A
Tensión nominal a impulsos	4 kV
Temperatura de la válvula de bola de presión (TB)	125 °C
Clasificación	Clase I


130mm
(5.12in)
238mm
(9.37in)
BR1035A13
1:1