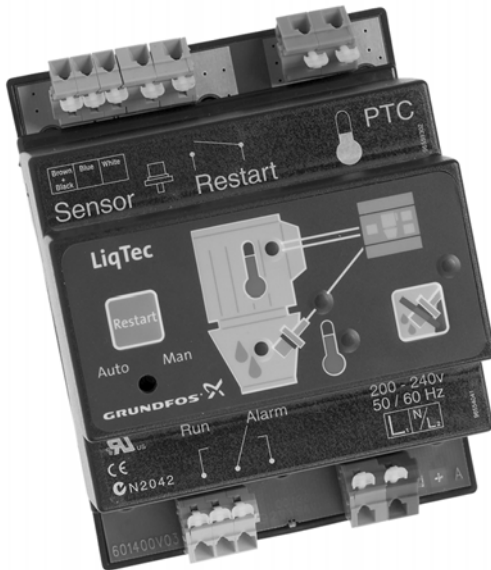


# LiqTec, 200-240 V

Installation and operating instructions

GB D F E GR DK PL RU CZ SK



## Declaration of Conformity

We **Grundfos** declare under our sole responsibility that the product **LiqTec**, to which this declaration relates, is in conformity with the Council Directives on the approximation of the laws of the EC Member States relating to

- Electromagnetic compatibility (89/336/EEC).  
Standards used: EN 61 000-6-2 and EN 61 000-6-3.
- Electrical equipment designed for use within certain voltage limits (73/23/EEC) [95].  
Standards used: IEC/EN 60 730-1 and IEC/EN 60 730-2-9.

## Konformitätserklärung

Wir **Grundfos** erklären in alleiniger Verantwortung, dass das Produkt **LiqTec**, auf das sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EG-Mitgliedstaaten übereinstimmt:

- Elektromagnetische Verträglichkeit (89/336/EWG).  
Normen, die verwendet wurden: EN 61 000-6-2 und EN 61 000-6-3.
- Elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen (73/23/EWG) [95].  
Normen, die verwendet wurden: IEC/EN 60 730-1 und IEC/EN 60 730-2-9.

## Déclaration de Conformité

Nous **Grundfos** déclarons sous notre seule responsabilité que le produit **LiqTec** auquel se réfère cette déclaration est conforme aux Directives du Conseil concernant le rapprochement des législations des Etats membres CE relatives à

- Compatibilité électromagnétique (89/336/CEE).  
Standards utilisés: EN 61 000-6-2 et EN 61 000-6-3.
- Matériel électrique destiné à employer dans certaines limites de tension (73/23/CEE) [95].  
Standards utilisés: IEC/EN 60 730-1 et IEC/EN 60 730-2-9.

## Declaración de Conformidad

Nosotros **Grundfos** declaramos bajo nuestra única responsabilidad que los productos **LiqTec** a los cuales se refiere esta declaración son conformes con las Directivas del Consejo relativas a la aproximación de las legislaciones de los Estados Miembros de la CE sobre

- Compatibilidad electromagnética (89/336/CEE).  
Normas aplicadas: EN 61 000-6-2 y EN 61 000-6-3.
- Material eléctrico destinado a utilizarse con determinadas límites de tensión (73/23/CEE) [95].  
Normas aplicadas: IEC/EN 60 730-1 y IEC/EN 60 730-2-9.

## Δήλωση Συμμόρφωσης

Εμείς η **Grundfos** δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι τα προϊόντα **LiqTec** συμμορφώνονται με την Οδηγία του Συμβουλίου επί της σύγκλισης των νόμων των Κρατών Μελών της Ευρωπαϊκής Ένωσης σε σχέση με τα

- Ηλεκτρομαγνητική συμβατότητα (89/336/EEC).  
Πρότυπα που χρησιμοποιήθηκαν: EN 61 000-6-2 και EN 61 000-6-3.
- Ηλεκτρικές συσκευές σχεδιασμένες για χρήση εντός ορισμένων ορίων ηλεκτρικής τάσης (73/23/EEC) [95].  
Πρότυπα που χρησιμοποιήθηκαν: IEC/EN 60 730-1 και IEC/EN 60 730-2-9.

## Oversensstemmelseserklæring

Vi **Grundfos** erklærer under ansvar, at produktet **LiqTec**, som denne erklæring omhandler, er i overensstemmelse med Rådets direktiver om indbyrdes tilnærmelse til EF medlemsstaternes lovgivning om

- Elektromagnetisk kompatibilitet (89/336/EØF).  
Anvendte standarder: EN 61 000-6-2 og EN 61 000-6-3.
- Elektrisk materiel bestemt til anvendelse inden for visse spændingsgrænser (73/23/EØF) [95].  
Anvendte standarder: IEC/EN 60 730-1 og IEC/EN 60 730-2-9.

## Deklaracja zgodności

My, **Grundfos**, oświadczamy z pełną odpowiedzialnością, że nasze wyroby **LiqTec**, których deklaracja niniejsza dotyczy, są zgodne z następującymi wytycznymi Rady d/s ujednolicenia przepisów prawnych krajów członkowskich EG:

- zgodność elektromagnetyczna (89/336/EWG),  
zastosowane normy: EN 61 000-6-2 i EN 61 000-6-3.
- wyposażenie elektryczne do stosowania w określonym zakresie napięć (73/23/EWG) [95].  
zastosowane normy: IEC/EN 60 730-1 i IEC/EN 60 730-2-9.

## Заявление о соответствии

Мы, фирма **Grundfos**, со всей ответственностью заявляем, что изделие **LiqTec** к которому относится данное заявление, соответствует следующим директивам Совета об унификации законодательных предписаний стран-членов ЕС, касающихся:

- электромагнитной совместимости (EMV) (89/336/ЕЭС), применявшиеся ранее нормы и стандарты EN 61 000-6-2 и EN 61 000-6-3;
- электрооборудования, спроектированного для эксплуатации в определенном диапазоне значений напряжения (73/23/ЕЭС) [95].  
применявшиеся ранее нормы и стандарты IEC/EN 60 730-1 и IEC/EN 60 730-2-9.

## Prohlášení o shodě

My, firma **Grundfos**, prohlašujeme na svou plnou odpovědnost, že výrobek **LiqTec**, na který se toto prohlášení vztahuje, odpovídá ustanovením následujících směrnic o harmonizaci zákonů členských zemí EU:

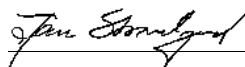
- Elektromagnetická kompatibilita (89/336/EEC).  
Použité normy: EN 61 000-6-2 a EN 61 000-6-3.
- Elektrická zařízení navržená pro použití v rámci určitých mezních hodnot napětí (72/23/EEC) [95].  
Použité normy: IEC/EN 60 730-1 a IEC/EN 60 730-2-9.

## Prehľadzenie o zhode

My, firma **Grundfos**, prehlasujeme na svoju plnú zodpovednosť, že výrobok **LiqTec**, na ktorý sa toto prehlásenie vzťahuje, zodpovedá ustanoveniam nasledujúcich smerníc o harmonizácii zákonov členských krajín EÚ:

- Elektromagnetická kompatibilita (89/336/EEC).  
Použité normy: EN 61 000-6-2 a EN 61 000-6-3.
- Elektrické zariadenia navrhnuté na použitie v rámci určitých medzných hodnôt napätia (72/23/EEC) [95].  
Použité normy: IEC/EN 60 730-1 a IEC/EN 60 730-2-9.

Bjerringbro, 1st October 2004



Jan Strandgaard  
Technical Manager

# LiqTec, 200-240 V

<b>Installation and operating instructions</b>	<b>4</b>	<b>GB</b>
<b>Montage- und Betriebsanleitung</b>	<b>6</b>	<b>D</b>
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<b>Instrukcja montażu i eksploatacji</b>	<b>16</b>	<b>PL</b>
<b>Руководство по монтажу и эксплуатации</b>	<b>18</b>	<b>RU</b>
<b>Montážní a provozní návod</b>	<b>20</b>	<b>CZ</b>
<b>Návod na montáž a prevádzku</b>	<b>22</b>	<b>SK</b>

## Description

The LiqTec

- protects the pump against dry-running.
- protects the pump against too high liquid temperature ( $130^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ).
- can monitor the motor temperature if the PTC sensor in the motor has been connected.
- has a fail-safe design. If the sensor, sensor cable, electronic unit or power supply fails, the pump stops immediately.

## Mounting the LiqTec sensor

The LiqTec can be fitted to a DIN rail to be incorporated in a control cabinet.

See illustrations on page 24.

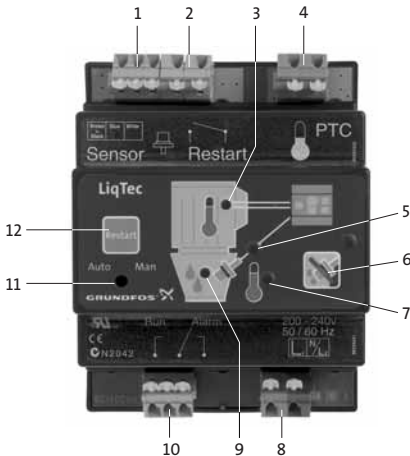
## Electrical connection

Example of electrical connection, see page 25.

## Calibration of sensor and LiqTec

Follow the procedure on the next page.

## Functions



TM03 0111 4004

1. **Connection for dry-running sensor**  
Service number of dry-running sensor: 96556427.
2. **Connection for external restarting.**
3. **Motor PTC**  
Green light indicates OK or short-circuited terminals.  
Red light indicates too high motor temperature.  
The alarm relay is activated.
4. **Connection for PTC sensor**  
A PTC sensor according to DIN 44 082 can be connected to this terminal.  
If the PTC sensor is not used, the terminals must be short-circuited.
5. **Sensor indicator light**  
Red light indicates defective sensor or cable.  
The alarm relay is activated.
6. **Deactivation of the dry-running monitoring function**  
Press the button to deactivate the dry-running monitoring function. Red flashing light. The PTC monitoring function is still active.  
Press the Restart button to reactivate the dry-running monitoring function.
7. **High liquid temperature indicator light**  
Red light indicates too high liquid temperature ( $130^{\circ}\text{C} \pm 5^{\circ}\text{C}$ ).  
The alarm relay is activated.
8. **Supply voltage**  
200-240 V, 50/60 Hz.
9. **Dry-running indicator light**  
Green light indicates OK (liquid in pump).  
Red light indicates dry running (no liquid in pump).  
The alarm relay is activated.
10. **Alarm/Run relay output**  
Potential-free changeover contact.  
Maximum contact load:  
250 V, 1 A, AC (inductive load).
11. **Auto/Man**  
Changeover between automatic and manual restarting.  
The default setting is **Man**.  
Changeover is carried out by means of a small screwdriver.  
When **Auto** has been selected, the alarm indication will automatically be reset 10 to 20 seconds after liquid detection.
12. **Restart**  
Press the button to restart the pump. The button has no influence on the PTC monitoring.

## Calibration of sensor and LiqTec

Step	Action	Result
1	Check that the sensor is correctly connected to the LiqTec, see page 25.	
2	Before fitting the sensor in the pump, submerge the sensor into stagnant water. Any kind of container with water can be used. <b>Note:</b> It is important that the water is stagnant as the calibration will be misleading if the sensor is cooled by flowing water.	
3	Keep the buttons, pos. 6 and 12, pressed for approx. 20 seconds.	All red indicator lights (except pos. 7) start flashing.
4	When the green indicator lights, pos. 3 and 9, are permanently on, stop pressing the buttons, pos. 6 and 12.	The calibration is completed.

GB

### Further information

Information related to IEC 60 730-1:

- Software class A.
- Pollution degree 2.
- Type 1.

The LiqTec has been cURus approved according to UL 508.

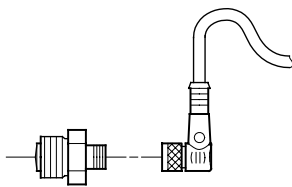
Maximum pressure: 40 bar.  
Maximum liquid temperature: +130°C ±5°C.  
Maximum ambient temperature: +55°C.  
Power consumption: 5 Watt.  
Enclosure class: IP X0.

Maximum cable length: 20 metres.  
Standard cable: 5 metres.  
Extension cable: 15 metres.  
Product number: 96443676.

### Disposal

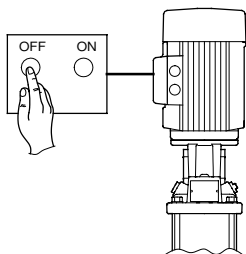
Disposal of this product or parts of it must be carried out according to the following guidelines:

1. Use the local public or private waste collection service.
2. In case such waste collection service does not exist or cannot handle the materials used in the product, please deliver the product or any hazardous materials from it to your nearest Grundfos company or service workshop.



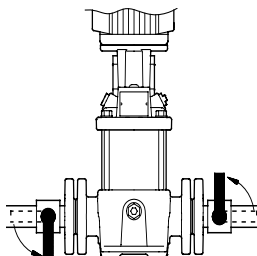
TM03 0092 4004

1



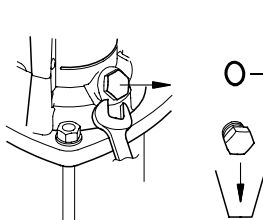
TM02 2175 3801

2



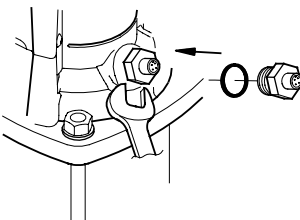
TM02 2176 3801

3



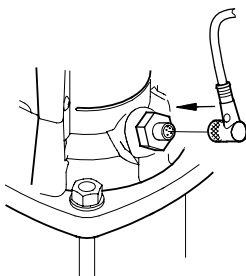
TM03 0093 4004

4



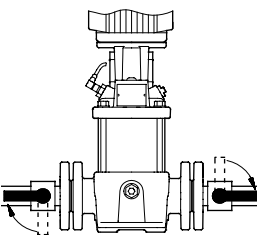
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5



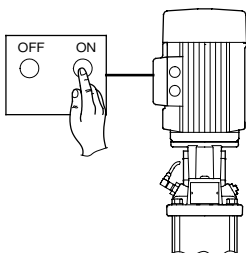
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6



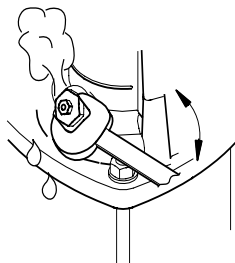
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7

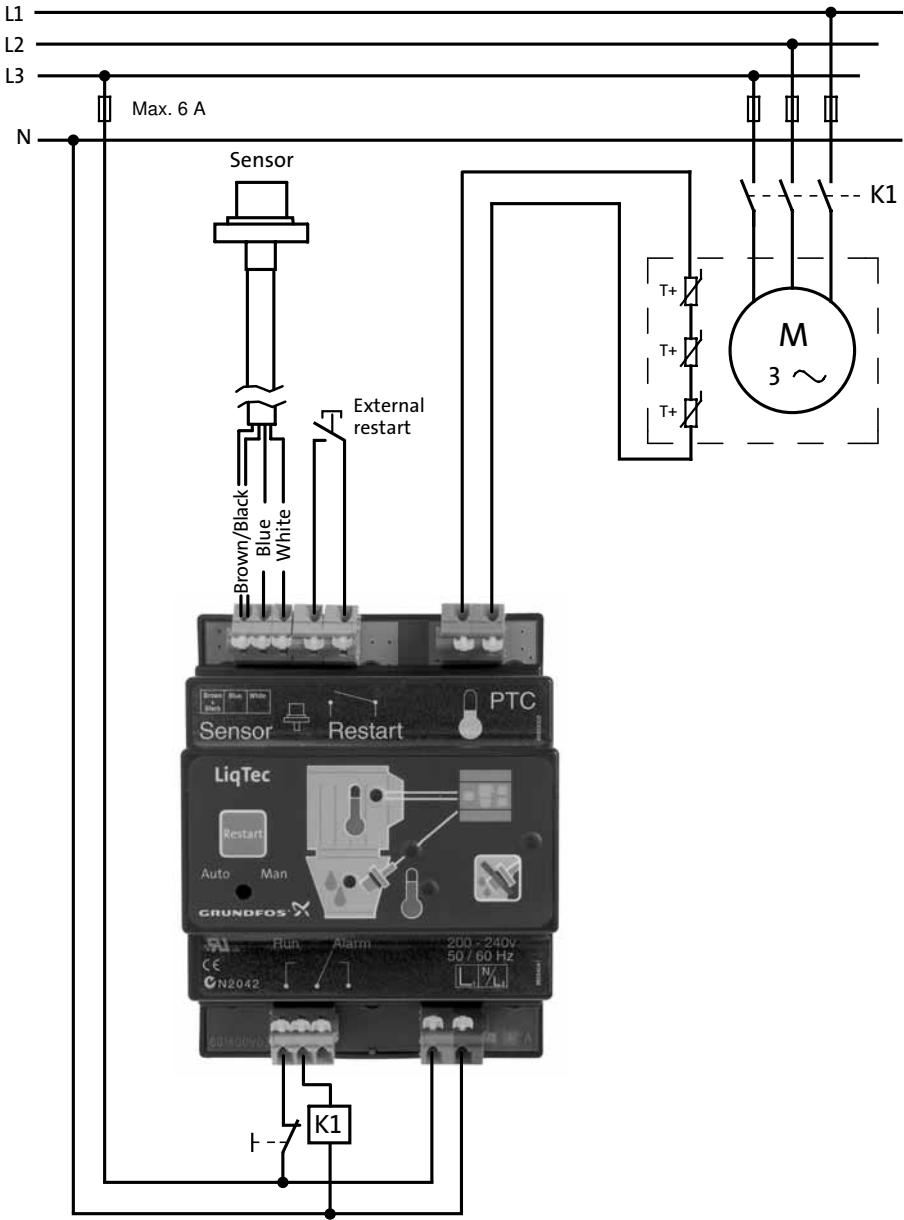


TM03 0097 4004

8



TM02 2182 3801



TM03 0112 4004

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