

# MC 80

UPE 25-80, UPE 32-80,  
UPE 40-80, UPE 50-80

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## Declaration of Conformity

We **GRUNDFOS** declare under our sole responsibility that the products **MC 80**, to which this declaration relates, are in conformity with the Council Directives on the approximation of the laws of the EEC 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).  
Standard used: EN 60 335-1.
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## Konformitätserklärung

Wir **GRUNDFOS** erklären in alleiniger Verantwortung, daß die Produkte **MC 80**, auf die sich diese Erklärung bezieht, mit den folgenden Richtlinien des Rates zur Angleichung der Rechtsvorschriften der EG-Mitgliedstaaten übereinstimmen:

- 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).  
Norm, die verwendet wurde: EN 60 335-1.
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## Déclaration de Conformité

Nous **GRUNDFOS** déclarons sous notre seule responsabilité que les produits **MC 80** auxquels se réfère cette déclaration sont conformes aux Directives du Conseil concernant le rapprochement des législations des Etats membres CEE 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).  
Standard utilisé: EN 60 335-1.
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## Dichiarazione di Conformità

Noi **GRUNDFOS** dichiariamo sotto la nostra esclusiva responsabilità che i prodotti **MC 80** ai quali questa dichiarazione si riferisce sono conformi alle Direttive del Consiglio concernente il ravvicinamento delle legislazioni degli Stati membri CEE relative a

- Compatibilità elettromagnetica (89/336/CEE).  
Standard usati: EN 61 000-6-2 e EN 61 000-6-3.
  - Materiale elettrico destinato ad essere utilizzato entro certi limiti di tensione (73/23/CEE).  
Standard usato: EN 60 335-1.
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## Declaración de Conformidad

Nosotros **GRUNDFOS** declaramos bajo nuestra única responsabilidad que los productos **MC 80** 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 CEE 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).  
Norma aplicada: EN 60 335-1.
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## Declaração de Conformidade

Nós **GRUNDFOS** declaramos sob nossa única responsabilidade que os produtos **MC 80** aos quais se refere esta declaração estão em conformidade com as Directivas do Conselho das Comunidades Europeias relativas à aproximação das legislações dos Estados Membros respeitantes à

- Compatibilidade electromagnética (89/336/CEE).  
Normas utilizadas: EN 61 000-6-2 e EN 61 000-6-3.
  - Material eléctrico destinado a ser utilizado dentro de certos limites de tensão (73/23/CEE).  
Norma utilizada: EN 60 335-1.
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## Δήλωση Συμμόρφωσης

Εμείς η **GRUNDFOS** δηλώνουμε με αποκλειστικά δική μας ευθύνη ότι τα προϊόντα **MC 80** 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).  
Πρότυπο που χρησιμοποιήθηκε: EN 60 335-1.

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### Overeenkomstigheidsverklaring

Wij **GRUNDFOS** verklaren geheel onder eigen verantwoordelijkheid dat de producten **MC 80** waarop deze verklaring betrekking heeft in overeenstemming zijn met de Richtlijnen van de Raad inzake de onderlinge aanpassing van de wetgevingen van de Lid-Staten betreffende

- Elektromagnetische compatibiliteit (89/336/EEG).  
Normen: EN 61 000-6-2 en EN 61 000-6-3.
- Elektrisch materiaal bestemd voor gebruik binnen bepaalde spanningsgrenzen (73/23/EEG).  
Norm: EN 60 335-1.

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### Försäkran om överensstämmelse

Vi **GRUNDFOS** försäkrar under ansvar, att produkterna **MC 80**, som omfattas av denna försäkran, är i överensstämmelse med Rådets Direktiv om inbördes närmande till EU-medlemsstaternas lagstiftning, avseende

- Elektromagnetisk kompatibilitet (89/336/EC).  
Använda standarder: EN 61 000-6-2 och EN 61 000-6-3.
- Elektrisk material avsedd för användning inom vissa spänningsgränser (73/23/EC).  
Använd standard: EN 60 335-1.

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### Vastaavuusvakuutus

Me **GRUNDFOS** vakuutamme yksin vastuullisesti, että tuotteet **MC 80**, jota tämä vakuutus koskee, noudattavat direktiivejä jotka käsittelevät EY:n jäsenvaltioiden koneellisia laitteita koskevien lakien yhdenmukaisuutta seur.:

- Elektromagneettinen vastaavuus (89/336/EY).  
Käytetyt standardit: EN 61 000-6-2 ja EN 61 000-6-3.
- Määrättyjen jänniterajoitusten puitteissa käytettävät sähköiset laitteet (73/23/EY).  
Käytetty standardi: EN 60 335-1.


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### Overensstemmelseserklæring

Vi **GRUNDFOS** erklærer under ansvar, at produkterne **MC 80**, 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).  
Anvendt standard: EN 60 335-1.












Bjerringbro, 1st December 2001

  
Svend Aage Kaae  
Technical Manager



# MC 80

UPE 25-80, UPE 32-80, UPE 40-80, UPE 50-80

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Before fitting the module, these fitting instructions should be studied carefully. The installation and operation should also be in accordance with local regulations and accepted codes of good practice.

For further information, see installation and operating instructions for the pump UPE Series 2000.

## 1. General description

The fault signal module MC 80 is an expansion module for UPE 25-80, UPE 32-80, UPE 40-80 and UPE 50-80.

Via an internal relay, the fault signal module gives access to a potential-free fault signal.

In addition to this fault signal output, the module has four inputs for external signals for the forced-control functions:

- Start/stop of pump.
- Max. curve duty.
- Min. curve duty (night-time duty).
- External analog control of head or speed from an external 0-10 V signal transmitter.

## 2. Electrical connection

The electrical connection and protection should be carried out in accordance with local regulations.



Never make any connections in the pump terminal box unless the electricity supply has been switched off for at least 5 minutes.

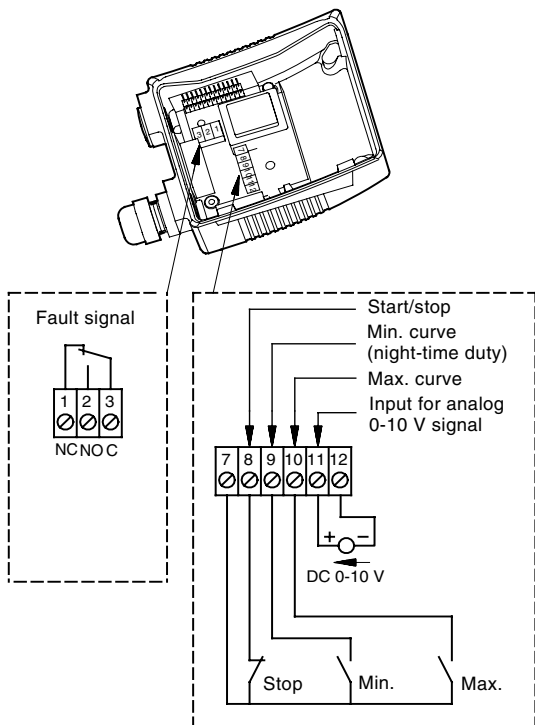
Carry out the mains connection as shown in fig. 1.

**Note:** If no external on/off switch is connected, the connection across terminals 7 and 8 should be maintained.



- Wires connected to
  - outputs 1 to 3,
  - inputs 4 to 12 and
  - supply terminals
 must be separated from each other by reinforced insulation.
- All leads connected to a terminal block must be tied up at the terminals.

Fig. 1



TM01 1099 4401

**Note:** If the 0-10 V input is used (terminals 11 and 12), there must be a connection across terminals 7 and 9 (the input for the min. curve must be closed).

### 3. External analog 0-10 V controller

The MC 80 has an input for an external 0-10 VDC analog signal transmitter (terminals 11 and 12). Via this input, the pump can be controlled by an external controller if the pump has been set to one of the following control modes:

- **Constant curve.**

The external analog signal will set the pump curve within the range from the min. curve to the constant curve selected according to the characteristic in fig. 2.

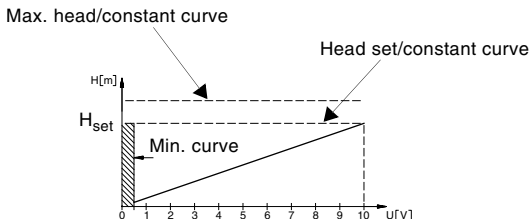
- **Constant or proportional pressure control.**

The external analog signal will control the setpoint for the pump head between the setpoint corresponding to the min. curve and the setpoint selected according to the characteristic in fig. 2.

At an input voltage lower than 0.5 V, the pump will operate according to the min. curve. The setpoint cannot be changed.

The setpoint can only be changed when the input voltage is higher than 0.5 V.

**Fig. 2**



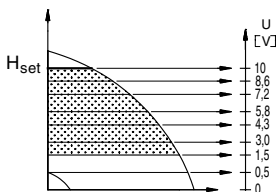
TM00 5550 4596

**Note:**

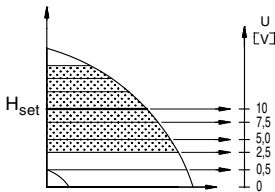
- The max. curve input, terminals 7 and 10, must be open.
- The min. curve input, terminals 7 and 9, must be closed.

The examples below illustrate the use of an analog control voltage in connection with a pump in constant-pressure control mode:

**Fig. 3**



TM01 1384 4497



TM01 1385 4497

**Note:** As will appear from the above figure, the number of curves that can be selected via the external analog signal will depend on the setpoint of the pump,  $H_{set}$ .



## 4. Fitting the module



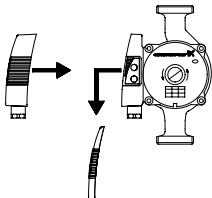
Never make any connections in the pump terminal box unless the electricity supply has been switched off for at least 5 minutes.

To fit a module, remove the existing terminal box cover and fit the new cover incorporating the module.

The new cover increases the height of the terminal box by approx. 36 mm.

See fig. 4 and the figure at the end of these instructions.

Fig. 4

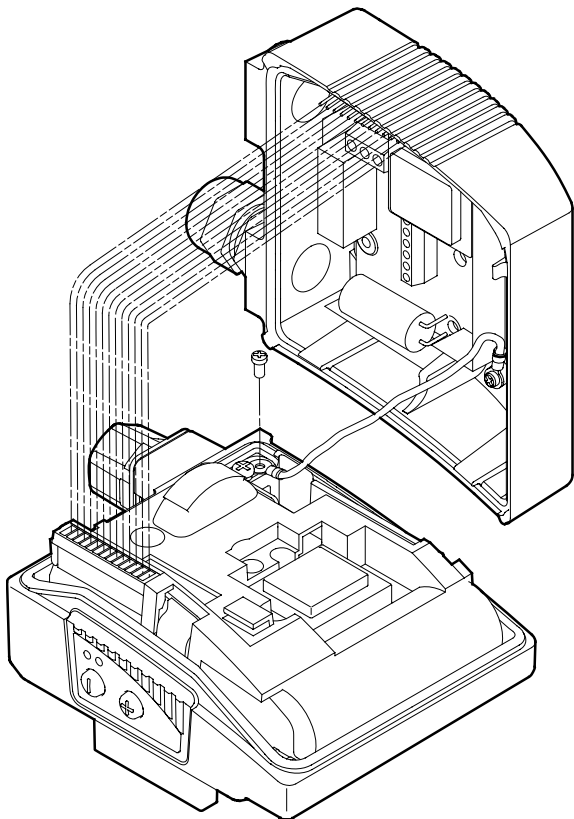


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## 5. Technical data

Start/stop input	External potential-free switch. Contact load: 5 VDC, 0.1 mA.
Max. curve input	Screened cable. Loop resistance: Maximum 130 $\Omega$ /km.
Min. curve input	Logical levels: Logical zero: $U < 1.5$ V. Logical one: $U > 4.0$ V.
Fault signal output	Internal potential-free changeover contact. Maximum load: 250 V, 2 A, AC1. Minimum load: 5 VDC, 1 mA. Screened cable.
Input for analog 0-10 V signal	External signal: 0-10 VDC. Maximum load: 0.1 mA. Screened cable.

Subject to alterations.



TM01 0658 4401

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