



# SLOVENSKI STANDARD

## SIST EN 12484-3:2001

01-maj-2001

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### Namakalna tehnika - Avtomatski namakalniki za trate - 3. del: Avtomatski nadzor in upravljanje namakalnega sistema

Irrigation techniques - Automatic turf irrigation systems - Part 3: Automatic control and system management

Bewässerungsverfahren - Automatische Rasenbewässerungssysteme - Teil 3: Regelung und Anlagensteuerung

Techniques d'irrigation - Installations avec arrosage automatique intégré des espaces verts - Partie 3: Automatismes et gestion des installations

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Ta slovenski standard je istoveten z: **EN 12484-3:2000**

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#### **ICS:**

|           |                              |                                   |
|-----------|------------------------------|-----------------------------------|
| 65.060.35 | Namakalna in drenažna oprema | Irrigation and drainage equipment |
|-----------|------------------------------|-----------------------------------|

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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

EN 12484-3

May 2000

ICS 65.060.35

English version

## Irrigation techniques - Automatic turf irrigation systems - Part 3: Automatic control and system management

Techniques d'irrigation - Installations avec arrosage  
automatique intégré des espaces verts - Partie 3:  
Automatismes et gestion des installations

Bewässerungsverfahren - Automatische  
Rasenbewässerungssysteme - Teil 3: Regelung und  
Anlagensteuerung

This European Standard was approved by CEN on 13 April 2000.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
COMITÉ EUROPÉEN DE NORMALISATION  
EUROPÄISCHES KOMITEE FÜR NORMUNG

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## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 334 "Irrigation techniques", the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2000, and conflicting national standards shall be withdrawn at the latest by November 2000.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

Within the framework of its work programme, the CEN/TC 334 has entrusted the preparation of this standard to CEN/TC 334/WG 4 "Automatic turf irrigation systems" working group to prepare the present draft :

EN 12484-3, *Irrigation techniques - Automatic turf irrigation systems - Part 3 : Automatic control and system management.*

The other parts of this standards are :

EN 12484-1, *Irrigation techniques - Automatic turf irrigation systems - Part 1 : Definition of the programme of equipment by the owner.*

EN 12484-2, *Irrigation techniques - Automatic turf irrigation systems - Part 2 : Design and definition of typical technical templates.*

prEN 12484-4, *Irrigation techniques - Automatic turf irrigation systems - Part 4 : Installation, acceptance and safety.*

prEN 12484-5, *Irrigation techniques - Automatic turf irrigation systems - Part 5 : Testing methods of systems.*

## 1 Scope

This part of this European standard EN 12484 is intended to :

- provide rules for the presentation of the user manual, installation manual, and trouble shooting guide ;
- guide the owner and/or the project manager in their choice for the most efficient control system, adapted to their needs and constraints ;
- define rules for minimum compatibility among different makes of control systems.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 12484-2:2000, *Irrigation techniques - Automatic turf irrigation systems - Part 2 : Design and definition of typical technical templates.*

## 3 Terms and definitions

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For the purposes of this European Standard, the following terms and definitions apply in the field of automatic turf irrigation. The other terms needed are defined in the other parts of this standard :

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**3.1 self - powered programmable valve** <https://standards.iteh.ai/catalog/standards/sist/d6dbf23c-54c8-47c0-aa84-ae25e705aabf/sist-en-12484-3-2001>

### 3.1.1 pilot

electronic controller used to activate or deactivate an hydraulic valve which is not connected to an external electrical power source, and is powered by either a battery or a solar panel. The user interface will be either integrated into the pilot and/or completely independent. In that case, the communication can be made in various ways such as temporary electrical connections, infrared transmissions, radio transmission or any other appropriate mean

### 3.1.2 hand held remote control

an external electronic remote control device including a programming interface and a transmission interface (electrical, radio, infrared, or else) operating an indefinite number of pilots

### 3.1.3 latching solenoid

an assembly which converts an electric signal into the opening or closing of a hydraulic valve

## 3.2 irrigation controller

electronic or electro-mechanical device with built in user interface which operates sequentially or independently one or more automatic remote control valves by means of electrical impulse through extra low voltage cable or by means of hydraulic pneumatic pressure through tubing or by other suitable means

### 3.2.1 networked irrigation controller

an irrigation controller able to upload or download information through a network

### 3.2.2 means of transmission

- transmission by electric line ;
- transmission by public phone line ;
- transmission by radio.

### 3.3 computerised central control unit

a computerised device able to :

- store all the parameters retained for the management of the irrigation ;
- program the watering cycles ;
- transmitting programs and eventually receiving field information to/from the networked controllers.

#### 3.3.1 central satellite control system

a system containing :

- a central control unit that is to say a device able to download programs and eventually upload field information to/from its satellite controllers ;
- several satellite controllers that is to say an irrigation controller that can communicate with the central unit by the means which are defined in 3.2.2.

#### 3.3.2 central decoder control system

a system containing a central control unit which operates decoders through multiplexed wire lines which also provide power to operate automatic remote control 24 Volts valves

#### 3.3.3 sensor

the sensing device on any measuring or monitoring instrument or system. Typically, such a device is capable of sensing the status of a medium or a piece of equipment, whether an event is or is not happening, or the values or variations of a physical quantity (e.g. failure sensor, level sensor). The sensed information is delivered in a form usable locally or remotely.

### 3.4 automatic control

#### 3.4.1 automatic control system

a system containing both a central control unit and a number of networked controllers

#### 3.4.2 automatic control device

an item component of the automatic control system as for example a self-powered programmable valve or an irrigation controller

## 4 Rules for the presentation of the user manual

### 4.1 content of the user manual

The automatic control device shall be supplied with a user manual in the languages of the countries where the product is on sale. The user manual shall follow the presentation described below :

#### 4.1.1 Installation guide

The conditions of installation shall be clearly indicated i.e. indoor or outdoor installation. If additional equipments need to be added in certain environmental situations, those situations and required equipments shall be described (example : lightning protection devices in lightning probe area, water proof enclosure for indoor controllers installed outside).

The "Danger" and "caution" notes shall be highlighted at the beginning of each step of operation presenting potential hazards for user or for the device itself.

Use imperatively the safety reminder of this type :



**POTENTIAL DANGER** : The contact with a bare cable or a terminal strip when power is applied to the device may cause electrocution.

**HOW TO PROTECT** : Do not take apart the protective covers without having previously turn power off.

##### 4.1.1.1 Presentation of the automatic control device

The installation guide shall include an illustration of the device with the description of the functions of each of its elements ( knobs, buttons, switch , display, etc.).

##### 4.1.1.2 Mounting the components

The installation guide shall include an illustration associated with step by step method of installation.

##### 4.1.1.3 Connection to power source and remote control valve

Potential electrical hazard shall be clearly highlighted by a note and the conventional triangular DANGER sign as follow :



**POTENTIAL DANGER** : The contact with a bare cable or a terminal strip when power is applied to the device may cause electrocution.

**HOW TO PROTECT** : Do not take apart the protective covers without having previously turn power off.



**CAUTION** : Connecting more than two 24 V 10 W solenoid valve on one station may blow the fuse and/or damage the controller.



The installation guide shall include an illustration with the recommended manufacturer method to connect the power source, the remote control valves, sensors etc.

This subclause of the manual shall show the user how to comply with the electrical regulation of the country where the device is installed.

#### 4.1.2 Establishing the watering program

This subclause of the manual shall advise the user to establish on paper the watering program based on the information described in subclause 4.4 "Calculation note regarding irrigation parameters" of EN 12484-2:2000.

The information needed to establish the watering program shall be grouped in a table such as the following table 1 given as an example :

**Table 1 — Example of information to establish the watering program**

| Program Number | Station N° | Active days or irrigation frequency | Program start times | Station run time |
|----------------|------------|-------------------------------------|---------------------|------------------|
|                |            |                                     |                     |                  |
|                |            |                                     |                     |                  |
|                |            |                                     |                     |                  |

#### 4.1.3 Programming in automatic control

This subclause of the manual shall show the user how to set the exact time and day.

#### 4.1.4 Programming the automatic operation

This subclause of the manual shall show the user the different steps to :

- program active days or irrigation frequency ;
- program stations run times ;
- set stations assignment to program (if applicable).

#### 4.1.5 Other commands and special functions

This subclause of the manual shall indicate the user how to use specific features.

#### 4.1.6 Operating in manual mode

This subclause of the manual shall indicate the user how to manually start and stop stations and/or program of the automatic control device.

#### 4.1.7 Water conservation

This subclause of the manual shall advise the user how to save water by using the water conservation features incorporated in the device (if any available) or by splitting irrigation cycles, or by any other means.

#### 4.1.8 Testing

The test procedure to check if the device is operating correctly shall be described.