

## INTRODUCTION

Brodersen message displays and operator panels provide the operator with relevant information about e.g. operating conditions and actual measured variables, when the plant is operating normally, and alerts the operator in case of a malfunction situation.

The information is transferred from a PLC or other controller and converted to clear, simple messages on the display - as fixed texts or a combination of fixed text and current measured variable. Operator panels have 2 lines of text with 20 characters and a capacity of up to 200 messages. Each message can include up to 16 dynamic digits.

As and where desired, the operator can key his way directly into the PLC and change parameters or implement pre-programmed functions - and here it is possible to choose between panels with 4 or 24 keys.

Operator panels are supplied with different options for connection to the controller - e.g. with a parallel interface for direct connection to the digital outputs on the controller, with a serial interface including drivers to most PLCs or with VT100 terminal emulation.

Programming of texts is perfectly straightforward and is done either with an ordinary PC or by connecting a PC keyboard directly. If display message printouts including the time are required for documentation or data-logging purposes, a printer can be connected.

The elegant design and small dimensions of the Brodersen message displays have been tailor-made for incorporation in a console or control panel.

Brodersen also manufactures message displays and operator panels with BITBUS™ interface and industrial PCs.

## SELECTION GUIDE

TYPE	Parallel interface	Serial interface	Number of keys	Variable digits	Real-time clock & calendar	Acoustic alert	Printer output	Page...
UCT-33		•	4	•		•		90
UCT-36		•	24	•		•		90
UCT-30	•							92
UCT-31	•			•				94
UCT-31P	•			•	•		•	94
UCT-35	•		4	•				96
UCT-35P	•		4	•	•		•	96
UCT-32		•	4	•		•		98
UCT-32P		•	4	•	•	•	•	98
UCT-34		•	24	•		•		98
UCT-34P		•	24	•	•	•	•	98

# Operator Interfaces

VT100 Terminal Emulation UCT-33/36



UCT-33



UCT-36

## DESCRIPTION

UCT-33/36 message display and operator panel is compatible with a VT100 terminal. Due to physical and functional limitations only a subset of the VT100 control commands are applicable to this device.

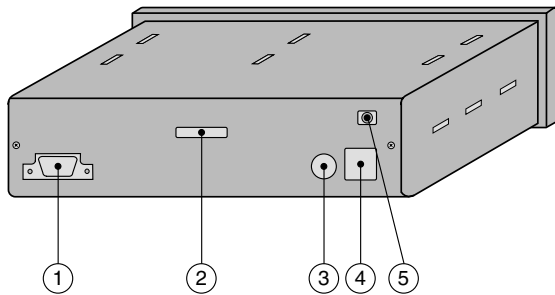
UCT-33/36 can be used as a nonintelligent man machine interface in industrial installations. The display acts as an output device for a "host", e.g. a PLC or a computer - data coming from the host is displayed on the screen. Simultaneously the keypad can be used as an input device to the host - information entered through the keyboard is sent to the host. The terminal utilizes a serial RS232C data interface to transfer data between the terminal and the host.

UCT-33 has 4 keys, UCT-36 has 24 keys on the front panel, both versions are equipped with a 2 x 20 character VFD display.

The units have IP65 front sealing and are designed for mounting in installation panels. The dimensions corresponds to DIN standard for panel meters etc.

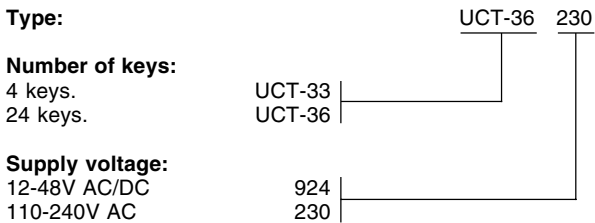
Versions are available for AC/DC supply voltage.

## REAR PANEL/CONNECTIONS



1. RS232C connector, 9-pole sub-D.
2. Code switch.
3. Fuse.
4. Mains supply, plug-in screw terminals.
5. Ground terminal.

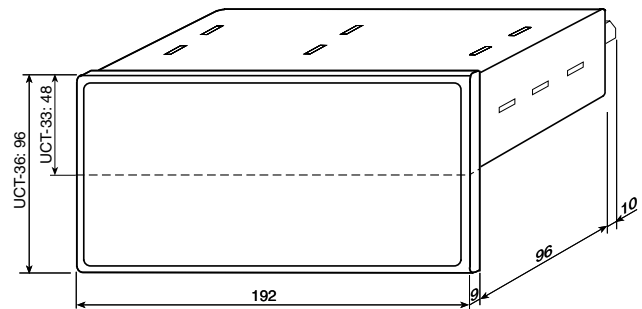
## VERSIONS/ORDERING CODES



## TECHNICAL DATA

<b>Display:</b>	VFD type, 2 x 20 characters, 5 x 7 dot matrix. Readable at a distance up to 3 m. 125 x 22 mm.
Display field:	
Height of characters:	5 mm.
Intensity:	Selectable, 4 levels.
<b>Keypad:</b>	UCT-33: 4 keys. UCT-36: 24 keys. Tactile feedback type. Acoustic feedback selectable
<b>Serial interface:</b>	EIA, RS 232C.
Mode:	Full duplex.
Speed:	300, 1200, 2400, 4800, 9600 Baud.
Code:	ASCII.
Format:	Asynchronous.
Character size:	7 or 8 bit.
Parity:	Even, odd or none.
Synchronization:	XON / XOFF.
Control:	Subset of VT100 (ANSI)
Connector:	9-pole sub-D (male).
<b>Supply voltage:</b>	12-48VAC/DC(10.5-58V). 110-240V AC (90-265V).
Connector:	Plug-in screw terminals.
<b>Mains frequency:</b>	40-60Hz.
<b>Consumption:</b>	Approx. 10W.
<b>Ambient temperature:</b>	-20 to +50°C.
<b>Protection:</b>	Front: IP54. Rear: IP20.
<b>EMC:</b>	According to EN50081-1, EN50082-2.
<b>Isolation:</b>	
Mains:	4kV AC. according to EN60950 class II.
<b>Dimensions:</b>	
Front:	
UCT-33:	192 x 48 mm according to DIN43700.
UCT-36:	192 x 96 mm according to DIN43700.
Depth:	96 mm + connectors (10 mm) + front (9 mm).
Panel cut-out:	186 x 45 mm.
<b>Housing:</b>	Front: Plastic. Rear: Anodized aluminium.
<b>Weight:</b>	Approx. 600 g.

## MECHANICAL DIMENSIONS



## Operator Interfaces

### Parallel Interface UCT-30



UCT-30

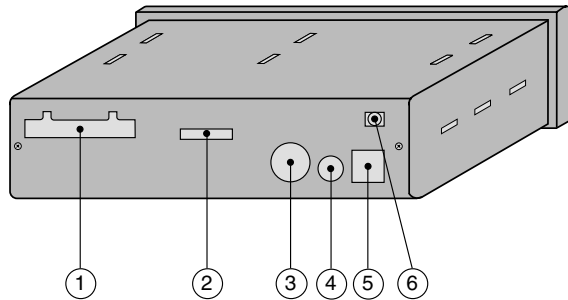
### DESCRIPTION

General purpose message display for front panel mounting with up to 100 prestored messages. Each message contains 2 lines of text with up to 20 characters per line.

The message display can easily be integrated into any PLC controlled system as the message selection is controlled by 9 (or less) standard outputs on the PLC.

Versions available for direct mains supply or battery supply.

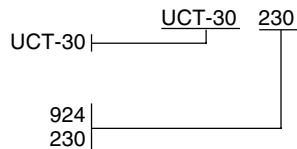
### REAR PANEL/CONNECTIONS



1. Parallel inputs, plug-in screw terminals.
2. Code switch.
3. Connector for external keyboard or PC.
4. Fuse.
5. Mains supply, plug-in screw terminals.
6. Ground terminal.

### VERSIONS/ORDERING CODES

**Type:**  
With 100 messages.

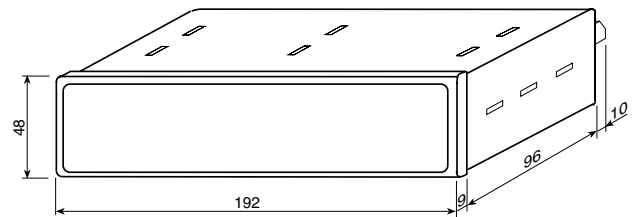


**Supply voltage:**  
12-48V AC/DC  
110-240V AC

## TECHNICAL DATA

<b>Display:</b>	VFD type, 2 x 20 characters, 5 x 7 dot matrix. Readable at a distance up to 3 m. 125 x 22 mm.
Display field:	
Height of characters:	5 mm.
Intensity:	Programmable, 4 levels.
<b>Messages:</b>	Up to 100 messages. 40 characters each. Messages are selected by an 8 bit binary co-de at the parallel input. Messages are stored in a built-in memory (EEPROM) independent of supply voltage.
<b>Character sets:</b>	Danish, UK, German, Swedish. Danish CP850, UK CP850, Swedish CP850, German CP850 Swiss/1 CP850, French CP850 Special character set available on request.
<b>Inputs:</b>	9 optocoupled inputs, PNP, NPN or relay controllable.
Input voltage:	10-30V DC (active). Max. 3V DC (non active).
Input current:	12V DC: Typically 3mA. 24V DC: Typically 6mA.
Input delay:	Typically 1ms (noise suppression).
Built-in DC supply:	12V DC nom. max. 100mA.
Connector:	Plug-in screw terminals.
<b>Programming:</b>	Standard XT/AT-compatible keyboards or PC via RS232C.
RS232C format:	1200 Baud, ASCII, 1 start bit, 8 bit, no parity, 1 stop bit.
Connector:	7-pole female DIN connector (XT/AT compatible).
<b>Supply voltage:</b>	12-48V AC/DC (10.5-58V). 110-240V AC (90-265V).
Connector:	Plug-in screw terminals.
<b>Mains frequency:</b>	40-60Hz.
<b>Consumption:</b>	Approx. 10W.
<b>Ambient temperature:</b>	-20 to +50 °C.
<b>Protection:</b>	Front: IP54. Rear: IP20.
<b>EMC:</b>	According to EN50081-1, EN50082-2.
<b>Isolation:</b>	Mains: 4kV AC according to EN60950. Parallel input to electronics: 2kV AC.
<b>Dimensions:</b>	Front: 192 x 48 mm according to DIN43700. Depth: 96 mm + connectors (10 mm) + front (9 mm). Panel cut-out: 186 x 45 mm.
<b>Housing:</b>	Front: Plastic. Rear: Anodized aluminium.
<b>Weight:</b>	Approx. 600 g.

## MECHANICAL DIMENSIONS





UCT-31/31P

**DESCRIPTION**

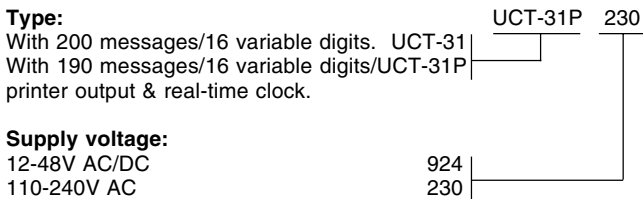
General purpose message display for front panel mounting with up to 200 prestored messages. Each message contains 2 lines of text with up to 20 characters per line. Process values, counter values, etc. with up to 16 digits can be placed in the text field.

The message display can easily be integrated into any PLC controlled system as the message selection and read-out of process values is controlled by 9 (or less) standard transistor outputs on the PLC.

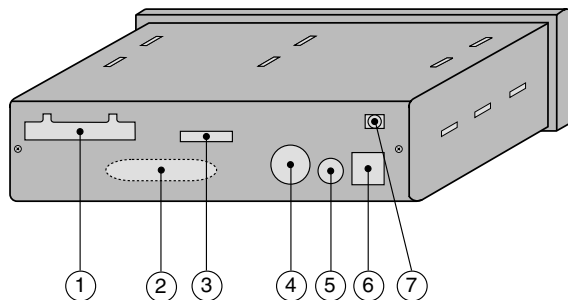
The UCT-31P version can be connected to a standard parallel printer and each message can be printed out for e.g. documentation together with the actual time and date derived from the built-in real-time clock.

Versions available for direct mains supply or battery supply.

**VERSIONS/ORDERING CODES**



**REAR PANEL/CONNECTIONS**



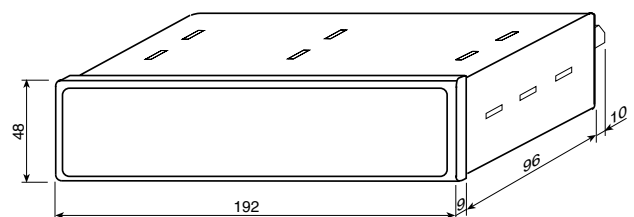
1. Parallel inputs, plug-in screw terminals.
2. Printer output, 25-pole sub-D (P-version only).
3. Code switch.
4. Connector for external keyboard or PC.
5. Fuse.
6. Mains supply, plug-in screw terminals.
7. Ground terminal.

## TECHNICAL DATA

<b>Display:</b>	VFD type, 2 x 20 characters, 5 x 7 dot matrix. Readable at a distance up to 3 m.
Display field:	125 x 22 mm.
Height of characters:	5 mm.
Intensity:	Programmable, 4 levels.
<b>Messages:</b>	Up to 200 messages (P-version: 190). 40 characters each. Messages are selected by an 8 bit binary code at the parallel input (100 messages using BCD selection). Messages are stored in built-in memory (EE-PROM) independent of supply voltage.
<b>Variable digits:</b>	Up to 16 digits totally. The variable digits can be used for a single value or separated into a number of values and placed at any position in the text field. The values are entered by using a 4 bit binary code selecting the digit position and a 4 bit BCD code entering the digit value.
<b>Time/date digits:</b> (P-version only)	Up to 10 digits totally. year-month-date, hours, minutes. The time/date digits can be placed at any position in the text field. Time/date are derived from the internal real-time clock.
<b>Character sets:</b>	Danish, UK, German, Swedish. Danish CP850, UK CP850, Swedish CP850, German CP850 Swiss/1 CP850, French CP850
<b>Inputs:</b>	9 optocoupled inputs, PNP or NPN controllable.
Input voltage:	10-30V DC (active). Max. 3V DC (non active)
Input current:	12V DC: Typically 3mA. 24V DC: Typically 6mA.
Input delay:	Typically 1ms (noise suppression).
Built-in DC supply:	12V DC nom. max. 100mA
Connector:	Plug-in screw terminals.
<b>Real-time clock:</b> (P-version only)	Time (hours-minutes) 2 x 2 digits. Calendar (year-month-date) 3 x 2 digits. Automatic correction for leap days. Correction for summertime via code switch.
Accuracy:	25°C: Better than $\pm 1$ s/day. -20 to +50°C: Better than $\pm 5$ s/day.
Battery back-up:	Min. 3 years, typically 5 years.
<b>Printer output:</b> (P-version only)	Standard parallel (Centronics type). For each message it is possible to select whether the message should be printed or not. Time and date will automatically precede all messages sent to the printer.
Connector:	25-pole sub-D (female) connector.

<b>Programming:</b>	Standard XT/AT-compatible keyboards or PC via RS232C.
RS232C format:	1200 Baud, ASCII, 1 start bit, 8 bit, no parity, 1 stop bit.
Connector:	7-pole female DIN connector (XT/AT compatible).
<b>Supply voltage:</b>	12-48V AC/DC (10.5-58V). 110-240V AC (90-265V).
Connector:	Plug-in screw terminals.
<b>Mains frequency:</b>	40-60Hz.
<b>Consumption:</b>	Approx. 10W.
<b>Ambient temperature:</b>	-20 to +50°C.
<b>Protection:</b>	Front: IP54. Rear: IP20.
<b>EMC:</b>	According to EN50081-1, EN50082-2.
<b>Isolation:</b>	Mains: 4kV AC according to EN60950. Parallel input to electronics: 2kV AC
<b>Dimensions:</b>	Front: 192 x 48 mm according to DIN43700. Depth: 96 mm + connectors (10 mm) + front (9 mm). Panel cut-out: 186 x 45 mm.:
<b>Housing:</b>	Front: Plastic. Rear: Anodized aluminium.
<b>Weight:</b>	Approx. 600 g.

## MECHANICAL DIMENSIONS



## Operator Interfaces

### Parallel Interface UCT-35/35P



UCT-35/35P

## DESCRIPTION

General purpose message display for front panel mounting with up to 200 prestored messages.

Each message contains 2 lines of text with up to 20 characters per line.

Process values, counter values, etc. with up to 16 digits can be placed in the text field.

The message display can easily be integrated into any PLC controlled system as the message selection and read-out of process values is controlled by 9 (or less) standard transistor outputs on the PLC.

4 button keypad on the front with direct connection to the rear connector available for any command going to the inputs of the PLC.

The UCT-35P version can be connected to a standard parallel printer and each message can be printed out for e.g. documentation together with the actual time and date derived from the built-in real-time clock.

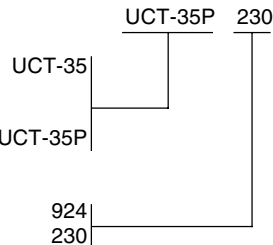
Versions available for direct mains supply or battery supply.

## VERSIONS/ORDERING CODES

### Type:

With 200 messages/  
16 variable digits/4 keys.

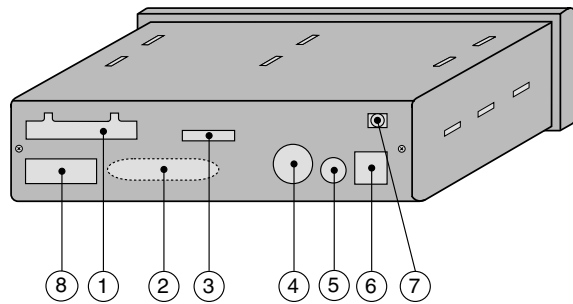
With 190 messages/  
16 variable digits/4 keys/  
printer output & real-time clock.



### Supply voltage:

12-48V AC/DC  
110-240V AC

## REAR PANEL/CONNECTIONS



1. Parallel inputs, plug-in screw terminals.
2. Printer output, 25-pole sub-D (P-version only).
3. Code switch.
4. Connector for external keyboard or PC.
5. Fuse.
6. Mains supply, plug-in screw terminals.
7. Ground terminal.
8. Keypad output, plug-in screw terminals.

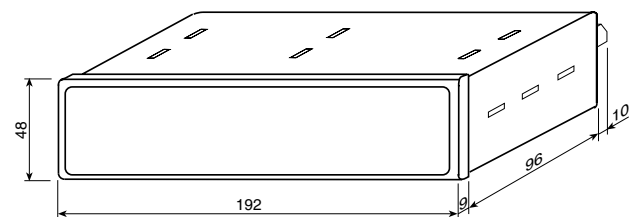


## TECHNICAL DATA

<b>Display:</b>	VFD type, 2 x 20 characters, 5 x 7 dot matrix. Readable at a distance up to 3 m.
Display field: Height of characters: Intensity:	125 x 22 mm. 5 mm. Programmable, 4 levels.
<b>Messages:</b>	Up to 200 messages (P-version: 190). 40 characters each. Messages are selected by an 8 bit binary code at the parallel input (100 messages using BCD selection). Messages are stored in built-in memory (EEPROM) independent of supply voltage.
<b>Variable digits:</b>	Up to 16 digits totally. The variable digits can be used for a single value or separated into a number of values and placed at any position in the text field. The values are entered by using a 4 bit binary code selecting the digit position and a 4 bit BCD code entering the digit value.
<b>Time/date digits:</b> (P-version only)	Up to 10 digits totally. Year, month, date, hours, minutes. The time/date digits can be placed at any position in the text field. Time/date are derived from the internal real-time clock.
<b>Keypad:</b>	4 potential free push-buttons with common terminal. Tactile feedback type.
Load: Contact resistance: Connector:	Max. 30V/20mA. Max. 100Ohms. Plug-in screw terminals.
<b>Character sets:</b>	Danish, UK, German, Swedish. Danish CP850, UK CP850, Swedish CP850, German CP850 Swiss/1 CP850, French CP850
<b>Inputs:</b>	9 optocoupled inputs, PNP or NPN controllable.
Input voltage:	10-30V DC (active). Max. 3V DC (non active).
Input current:	12V DC: Typically 3mA. 24V DC: Typically 6mA.
Input delay: Built-in DC supply: Connector:	Typically 1ms (noise suppression). 12V DC nom. max. 100mA. Plug-in screw terminals.
<b>Real-time clock:</b> (P-version only)	Time (hours-minutes) 2 x 2 digits. Calendar (year-month-date) 3 x 2 digits. Automatic correction for leap days. Correction for summertime via code switch.
Accuracy:	25°C: Better than ± 1s/day. -20 to +50°C: Better than ± 5s/day.
Battery back-up:	Min. 3 years, typically 5 years.
<b>Printer output:</b> (P-version only)	Standard parallel (Centronics type). For each message it is possible to select whether the message should be printed or not. Time and date will automatically precede all messages sent to the printer.
Connector:	25-pole sub-D (female) connector.
<b>Programming:</b>	Standard XT/AT-compatible keyboards or PC via RS232C.
RS232C format:	1200 Baud, ASCII, 1 start bit, 8 bit, no parity, 1 stop bit.
Connector:	7-pole female DIN connector (XT/AT compatible).

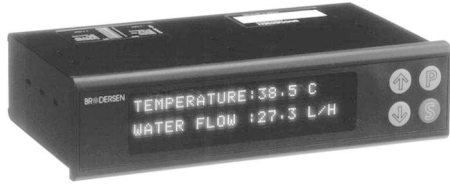
<b>Supply voltage:</b>	12-48V AC/DC (10.5-58V). 110-240V AC (90-265V).
Connector:	Plug-in screw terminals.
<b>Mains frequency:</b>	40-60Hz.
<b>Consumption:</b>	Approx. 10W.
<b>Ambient temperature:</b>	-20 to +50°C.
<b>Protection:</b>	Front: IP54. Rear: IP20.
<b>EMC:</b>	According to EN50081-1, EN50082-2.
<b>Isolation:</b>	Mains: 4kV AC according to EN60950. Parallel input to electronics: 2kV AC
<b>Dimensions:</b>	Front: 192 x 48 mm according to DIN43700. Depth: 96 mm + connectors (10 mm) + front (9 mm). Panel cut-out: 186 x 45 mm.
<b>Housing:</b>	Front: Plastic. Rear: Anodized aluminium.
<b>Weight:</b>	Approx. 600 g.

## MECHANICAL DIMENSIONS



## Operator Interfaces

RS232 Serial Interface UCT-32/32P/34/34P



UCT-32



UCT-34

### DESCRIPTION

Message display/operator panel for front panel mounting with up to 190 prestored messages.

Each message contains 2 lines of text with up to 20 characters per line.

Process values, counter values, etc. with up to 16 digits can be placed in the text field.

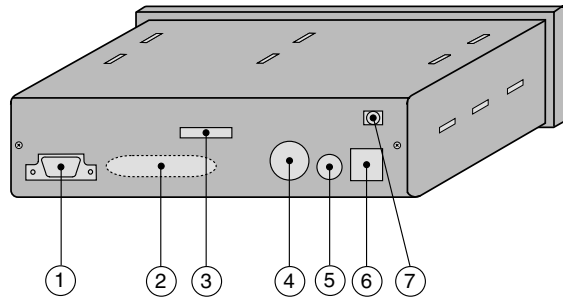
The message display utilizes a serial RS232 data interface to transfer data between the message display and a PLC. The message display has built-in drivers for different PLC types and the actual type is selected via a code switch on the message display. Optional versions with drivers/interface for Idec, ABB, Siemens and Koyo PLCs.

Versions available with 4 or 24 button keypad.

The UCT-32P/34P version can be connected to a standard parallel printer and each message can be printed out for e.g. documentation together with the actual time and date derived from the built-in real-time clock. The real-time clock data is also available for the connected PLC.

Versions available for direct mains supply or battery supply.

### REAR PANEL/CONNECTIONS



1. PLC connector, 9-pole sub-D.
2. Printer output, 25-pole sub-D (P-version only).
3. Code switch.
4. Connector for external keyboard or PC.
5. Fuse.
6. Mains supply, plug-in screw terminals.
7. Ground terminal.

### VERSIONS/ORDERING CODES

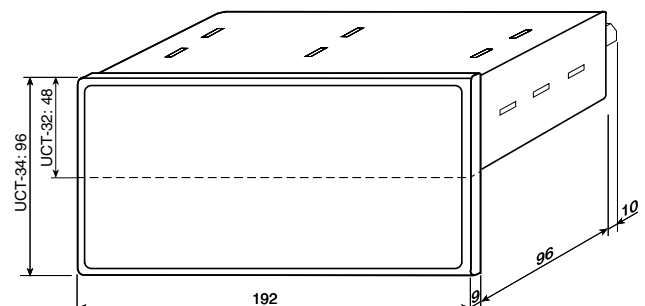
Type:	UCT-32	P	230	/ I
Number of keys:	UCT-32			
4				
24	UCT-34			
Printer output:		P		
Supply voltage:			924	
12-48V AC/DC				
110-240V AC			230	
Optional drivers:				I
Idec FA2, FA2J, FA3.				M3
Idec Micro 3				ABB
ABB Procontic				S
Siemens S5				K
Koyo DL205, DL405				

We are continuously developing new drivers.  
Please request our data sheet containing current information.

**TECHNICAL DATA**

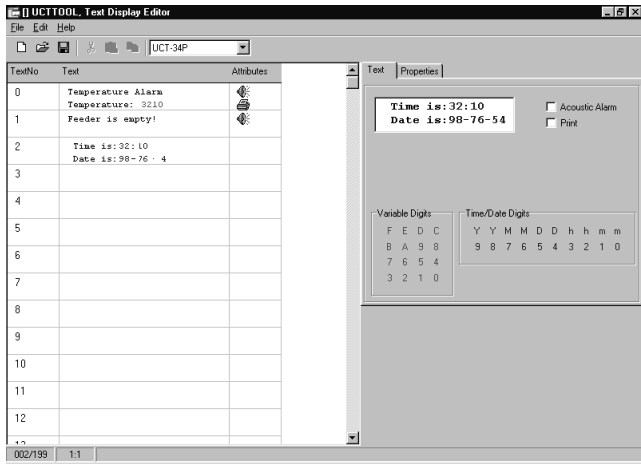
<b>Display:</b>	VFD type, 2 x 20 characters, 5 x 7 dot matrix. Readable at a distance up to 3 m. 125 x 22 mm.
Display field:	
Height of characters:	5 mm.
Intensity:	Programmable, 4 levels.
<b>Messages:</b>	Up to 190 messages, 40 characters each. Messages are selected via the serial data interface. Messages are stored in a built-in memory (EEPROM) independent of supply voltage.
<b>Variable digits:</b>	Up to 16 digits totally. The variable digits can be used for a single value or separated into a number of values and placed at any position in the text field. The values are entered via the serial data interface.
<b>Time/date digits:</b> (P-version only)	Up to 10 digits totally, Year, month, date, hours, minutes. The time/date digits can be placed at any position in the text field. Time/date are derived from the internal real-time clock and are available for the connected PLC.
<b>Keypad:</b>	UCT-32: 4 keys. UCT-34: 24 keys. Tactile feedback type. Acoustic feedback selectable.
<b>Character sets:</b>	Danish, UK, German, Swedish. Danish CP850, UK CP850, Swedish CP850, German CP850 Swiss/1 CP850, French CP850
<b>Serial input:</b>	RS232C.
<b>Option I version:</b>	Non standard interface adapted to the programming port of the PLC.
<b>Option S version:</b>	20mA current loop (TTY).
<b>Connector:</b>	9-pole male sub-D connector.
<b>PLC drivers:</b>	
Option I:	Idec FA2, FA2 (CPU-5M), FA2J, FA3 (CP11/12/13).
Option M3:	Idec Micro 3
Option A:	ABB Procontic, CPU type: 07KR31, 07KR91, 07KT92, 07KP62 & 35ZE94 (active mode).
Option S:	L1 network: Siemens S5PLC, CPU type: S5/95U, S5/100U, S5 115U/ CPU941 & CPU/942.
Option K:	K-sequence: Koyo DL205, DL405, CPU type: DL230, DL240, DL430, DL440.
<b>Real-time clock:</b> (P-version only)	Time (hours-minutes) 2 x 2 digits. Calendar (year-month-date) 3 x 2 digits. Automatic correction for leap days. Correction for summertime via code switch.
<b>Accuracy:</b>	25°C: Better than $\pm 1$ s/day. -20 to +50°C: Better than $\pm 5$ s/day.

<b>Battery back-up:</b>	Min. 3 years, typically 5 years.
<b>Printer output:</b> (P-version only)	Standard parallel (Centronics type). For each message it is possible to select whether the message should be printed or not. Time and date will automatically precede all messages sent to the printer.
<b>Connector:</b>	25-pole sub-D (female) connector.
<b>Programming:</b>	Standard XT/AT-compatible keyboards or PC via RS232C.
RS232C format:	1200 Baud, ASCII, 1 start bit, 8 bit, no parity, 1 stop bit.
<b>Connector:</b>	7-pole female DIN connector (XT/AT compatible).
<b>Supply voltage:</b>	12-48V AC/DC (10.5-58V). 110-240V AC (90-265V).
Connector:	Plug-in screw terminals.
<b>Mains frequency:</b>	40-60Hz.
<b>Consumption:</b>	Approx. 10W.
<b>Ambient temperature:</b>	-20 to +50°C.
<b>Protection:</b>	Front: IP54. Rear: IP20.
<b>EMC:</b>	According to EN50081-1, EN50082-2.
<b>Isolation:</b>	Mains: 4kV AC according to EN60950.
<b>Dimensions:</b>	
Front:	
UCT-32:	192 x 48 mm according to DIN43700.
UCT-34:	192 x 96 mm according to DIN43700.
<b>Depth:</b>	96 mm + connectors (10 mm) + front (9 mm).
<b>Panel cut-out:</b>	186 x 45 mm.
<b>Housing:</b>	Front: Plastic. Rear: Anodized aluminium.
<b>Weight:</b>	Approx. 600 g.

**MECHANICAL DIMENSIONS**

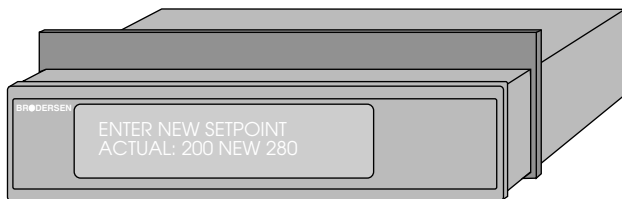
**PC EDITOR UCTTOOL32**

The PC editor UCTTOOL32 provides all facilities for easy programming, editing, storage and transfer of message files. Message files are transferred between the PC and message display via a RS232 link.



**FRONT PLATE ADAPTER**

The front plate adapter makes it simple to replace older UCT-20/21 message displays with new UCT-30/31/31P displays. No extra holes are required to fit the adapter plate which is placed between the front plate of the message display and the panel front.

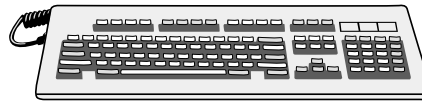


AMF-20 Front plate adapter.

**Rubber washed for increased front sealing IP 66:**  
 IP-66.                      AMF-32                      UCT-30/31/32/33/35  
                                  AMF-34                      UCT-34/36

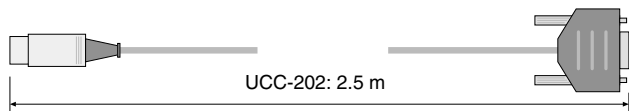
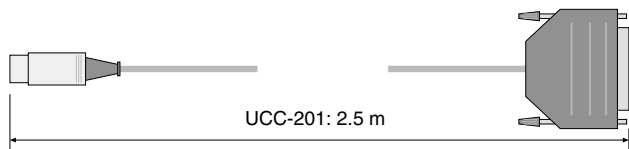
**EXTERNAL KEYBOARD**

**UCK-21**



**CABLES FOR PC PROGRAMMING**

Cable, 25-pole sub-D.    UCC-201  
 Cable, 9-pole sub-D.    UCC-202



**CABLES FOR PLC COMMUNICATION**

Cable for ABB Procontic (2.5 m)    UCC-216  
 Cable for Siemens S5 (2.5 m)    UCC-217  
 Cable for Idec FA2, FA2J, FA3 (2.5 m).    UCC-218  
 Cable for Idec Micro 3 (2,5m)    UCC-219

**CABLES AVAILABLE FROM KOYO DISTRIBUTOR**

Cable for Koyo DL205.    D2-DSDBL  
 Cable for Koyo DL405.    D4-DSCBL

**CABLE FOR PC COMMUNICATION UCC-561**

