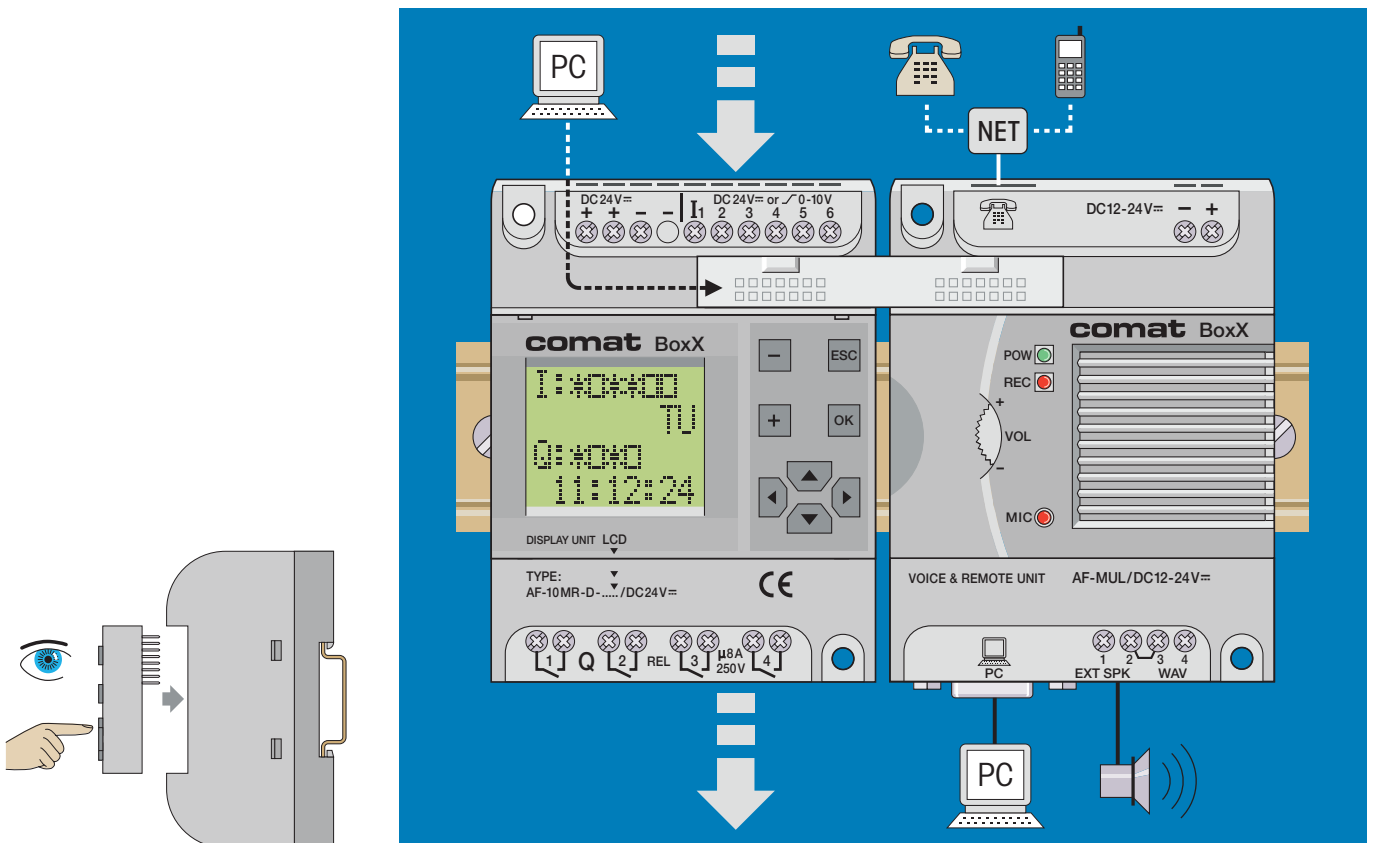*Automation Product*

The speaking controller

- Programming via PC
- Remote controlling and voice message over telephone network or Cellular phone
- Remote maintenance and remote operation of the installation
- Comprehensive function block library
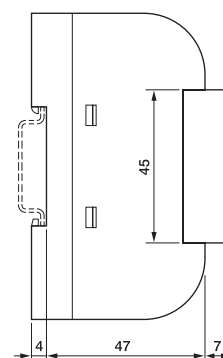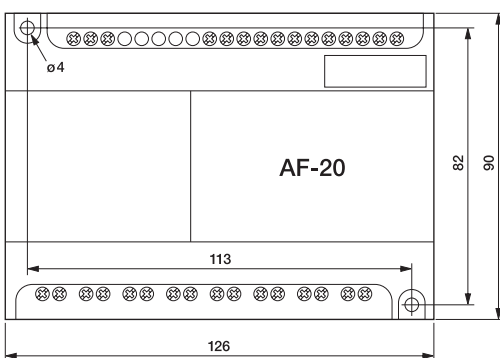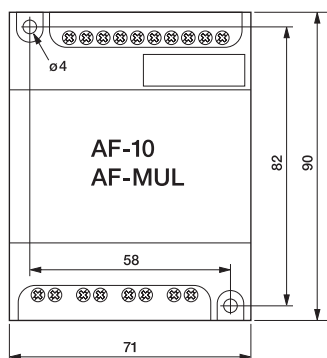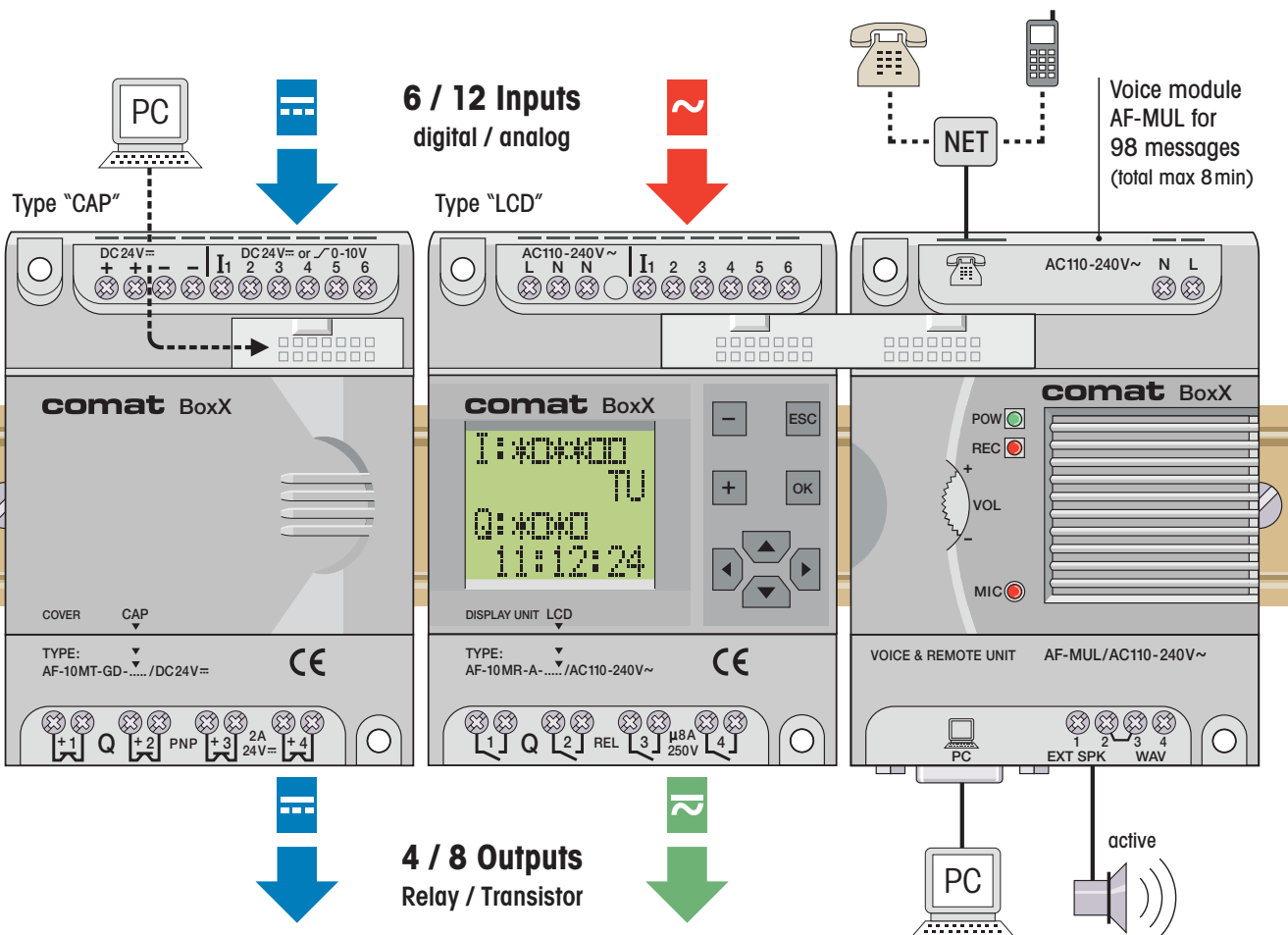- Password protected

comat BoxX

The Controller

127
Function blocks
Intermediate relays
Timer instructions
(up to the year 2099)

- Program storage | 64 kByte
- Time range | 0,01 s - 99,99 h
- Counting values | 1 - 999'999
- System timer back up | 100 h

PC

6 / 12 Inputs
digital / analog

~

Type "CAP"

Type "LCD"

NET

Voice module
AF-MUL for
98 messages
(total max 8 min)

DC 24V⎓
+ + − − I₁ DC 24V⎓ or ⌐0-10V
1 2 3 4

comat BoxX

COVER   CAP

TYPE:
AF-10MT-GD-......./DC 24V⎓   CE

+1 Q +2 PNP +3 2A +4
24V⎓

AC110-240V~
L N N I₁ 1 2 3 4 5 6

comat BoxX

I:✳□✳✳□□
        TU
Q:✳□✳□
11:12:24

−   ESC
+   OK
◀ ▲ ▼ ▶

DISPLAY UNIT LCD

TYPE:
AF-10MR-A-....../AC110-240V~   CE

1 Q 2 REL 3 µ8A 4
250V

AC110-240V~   N L

comat BoxX

POW ○
REC ●
+
VOL
−
MIC ●

VOICE & REMOTE UNIT   AF-MUL/AC110-240V~

PC   1 2 3 4
                      EXT SPK WAV

4 / 8 Outputs
Relay / Transistor

active

PC

Dimensional drawings:

AF-10
AF-MUL
ø4
82 / 90
58
71

AF-20
ø4
82 / 90
113
126

45
4 47 7

comat BoxX

The Application

The Comat BoxX can be programmed by PC or with the snap-on LCD display with integrated function keys.
It is possible to modify time intervals of the function blocks in the existing control program on site directly on to the installation.
The LCD display can be connected to the Comat BoxX to visualize conditions or may be removed (without voltage) and used on another Comat BoxX.

The 24 V versions of the Comat BoxX can also process analogue signals 0...10 V with increments of 0.1 V.
All inputs can be used or configured at random as analogue or digital inputs.
Function blocks for the comparison of analogue values are available, i.e. to monitor temperature in a heating system.
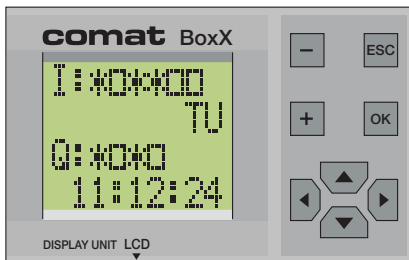
Setting the display

Analogue inputs

Programming software

The programming software QUICK II allows easy and transparent programming of the Comat BoxX with a PC.
QUICK II is based on Windows®.
127 function blocks can be stored inside the program memory of the Comat BoxX.
Stored programs cannot be lost even during a power loss.
Therefore back up batteries are not needed.
With the simulation tool, the set up can be tested on the PC before commissioning.

Example: Page 4

Programming the function blocks

Control tasks can be solved easily with the function blocks available in the library.
Programming codes in a high-level program language are not required.
Simply place the corresponding function blocks and link them with other function blocks according to the required control function.

The voice and remote module
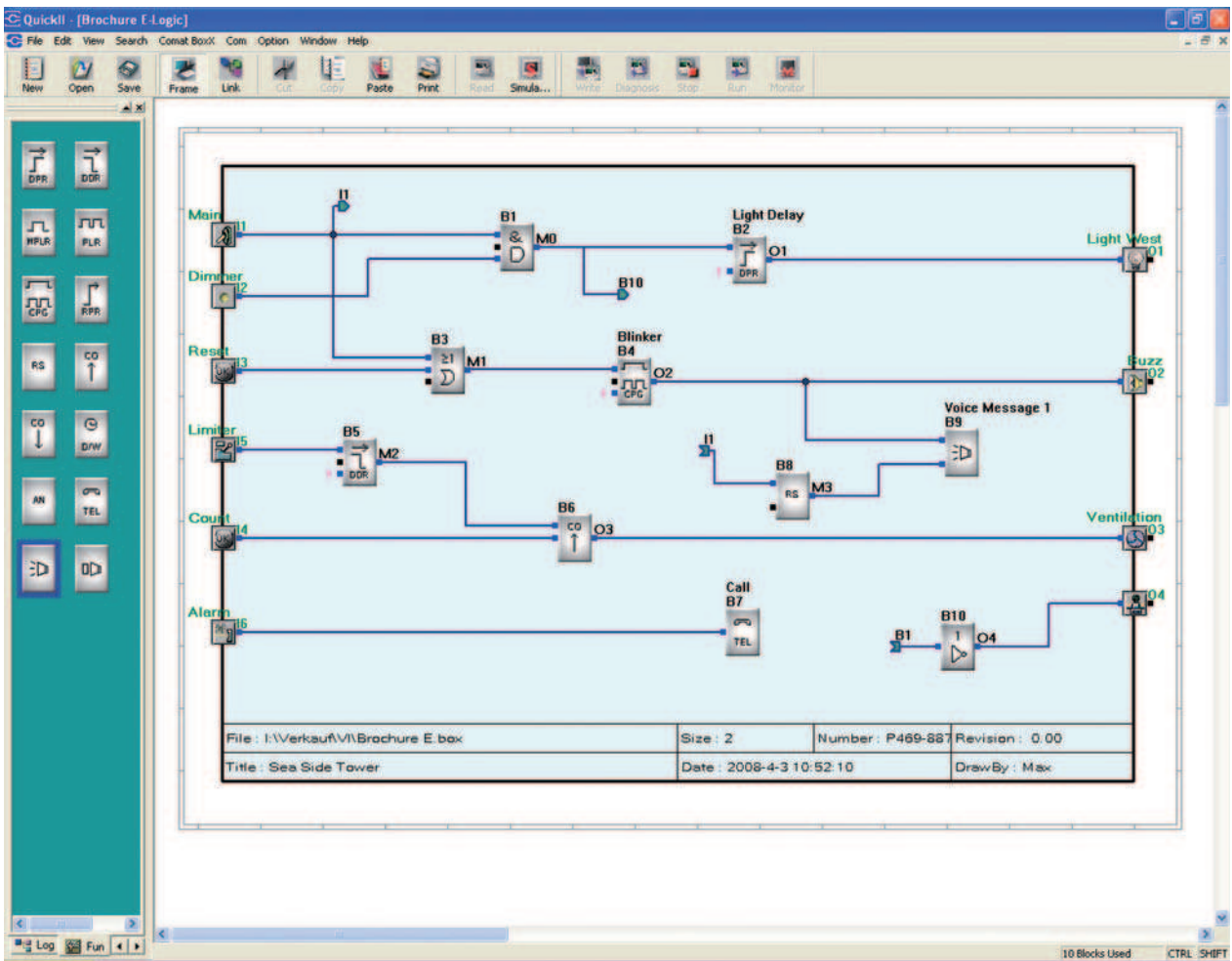
The voice module allows the playing of messages through either the built-in or external loud speakers.
The voice module also replays phone calls or dials phone numbers to send emergency or status messages.
Messages are recorded directly over the built-in microphone or are transferred as *.wav files directly from the PC.

Programming software Quick II

Example: Programing environment

comat | BoxX

The Extension module

Programming via the MUL voice and remote unit

Recording of messages with the PC
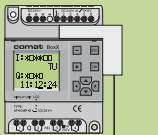
Programming simulation and monitoring with the PC.
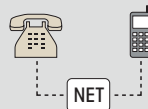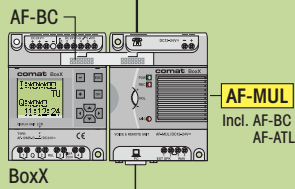
Each Comat BoxX can be controlled via a telephone line if connected to the extension module AF-MUL (voice & remote unit).
The AF-MUL will answer calls and allows access after the password is accepted.
The Comat BoxX with the AF-MUL is able to broadcast up to 98 prede-finded conditions, for example alarms, over the phone network.
The designated phone number is dialled and the recorded message is played over the telephone.
The message can also be broad-cast over auxiliary loudspeakers.

Messages are transferred to the voice module as *.wav files directly from the PC over the AF-AUD cable.

comat|BoxX

The Types

~ (AC)

6/12 Inputs digital AC110-240V	AC110-240V 50/60Hz	AC110-240V ~ INPUT
	L N N Ub	I1 I2 **6x** I6
	comat|BoxX AF-10MR-A-...	◀ BUS ▶
4/8 Ouputs relays 8A 250V~	RELAY µ8A 250V Q1 Q2 **4x** Q4	OUTPUT

AC110-240V 50/60Hz	AC110-240V ~ INPUT
L N N Ub	I1 I2 **12x** I12
comat|BoxX AF-20MR-A-...	◀ BUS ▶
RELAY µ8A 250V Q1 Q2 **8x** Q8	OUTPUT

Order no.

| without display | AF-10MR-A-CAP/AC110-240V |
| with display | AF-10MR-A-LCD/AC110-240V |

| without display | AF-20MR-A-CAP/AC110-240V |
| with display | AF-20MR-A-LCD/AC110-240V |

=== (DC)

6/12 Inputs configurable: digital / analog 0-10V (0,1V)	DC 24V ===	DC 24V === or ⌐ 0-10V INPUT
	+ + − −	I1 I2 **6x** I6
	comat|BoxX AF-10MR-D-...	◀ BUS ▶
4/8 Outputs relays 8A 250V~	RELAY µ8A 250V Q1 Q2 **4x** Q4	OUTPUT

DC 24V ===	DC 24V === or ⌐ 0-10V INPUT
+ + − −	I1 I2 **12x** I12
comat|BoxX AF-20MR-D-...	◀ BUS ▶
RELAY µ8A 250V Q1 Q2 **8x** Q8	OUTPUT

Order no.

| without display | AF-10MR-D-CAP/DC24V |
| with display | AF-10MR-D-LCD/DC24V |

| without display | AF-20MR-D-CAP/DC24V |
| with display | AF-20MR-D-LCD/DC24V |

| 4/8 Transistor outputs PNP 2A 24V=== | PNP 2A 24V=== Q1 Q2 **4x** Q4 OUTPUT | PNP 2A 24V=== Q1 Q2 **8x** Q8 OUTPUT |

Order no.

| without display | AF-10MT-GD-CAP/DC24V |
| with display | AF-10MT-GD-LCD/DC24V |

| without display | AF-20MT-GD-CAP/DC24V |
| with display | AF-20MT-GD-LCD/DC24V |

Accessories

Order no.

AF-MUL/AC110-240V	Voice and remote unit [1]
AF-MUL/DC12-24V	Voice and remote unit [1]
AF-RS232	AF-MUL Programming cable
AF-BC	AF-MUL Bridge connector [2]
AF-ATL	AF-5MUL Audio Cable [2]
AF-AUD	Audio Cable

[1] Inclusive AF-BC and AF-ATL
[2] Included with AF-MUL

Order no.

AF-D232	Programming cable
CMS-USB	Converter USB-RS 232
AF-MOD	Modem
AF-M232	Modem Interface connector
AF-LCD	Display with function keys
AF-CAP	Cover (instead of AF-LCD)
AF-CDR1	CD-ROM

The Data

	AF-10	AF-20	AF-MUL
Operating voltage Ub	AC110-240V~ 50/60Hz		AC110-240V~
	DC24V=== � max.10%		DC12-24V===
Power consumption	3VA/1,5W	5VA/1,5W	0,8VA
Switching power	⌐ 8A 250V~	⊼ 2A 24V===	
Ambience conditions	Tu without display -25...+55°C	Tu with display 0...+55°C	Rel. humidity: 5...95% (non condensing)	Protection IP20

Kühn Controls AG

Notes: