INTRODUCTION

The APOLLO III device is a powerful and versatile electronic system for the automated execution of bell functions. These include swinging, tolling, Angelus, playing carillon melodies etc. In addition to this, the APOLLO III device can ensure proper control of the tower clock, the heating, the lights, automatic gates etc.

In short, APOLLO III is a very suitable and extremely reliable device for everything related to time.

APOLLO III has extensive possibilities to communicate with different peripherals. This communication not only includes controlling these peripherals, but also detecting their possibilities.

In order to make this possible, the APOLLO III device is equipped with a number of outputs (max. 1250) and inputs (max. 1000). The starting commands for the different executions can be given manually, can be preprogrammed or can be given by means of an input (e.g. external key or a remote control).

The APOLLO III device is extremely adaptable to the customer's needs. The APOLLO III offers 3 possible operating states for this:

- The idle screen shows the actual time. The background (e.g. a photograph, logo ...) is programmed by the installer.
- The main time provides all information concerning time, date, time synchronisation, active programme switches and bell functions being executed at that time.
 There are also a couple of shortcuts, for example, in order to toll and swing a number of bells (max. 20 keys) and a number of actions (max. 6). The main screen contains the user keys which allow the end user to start, change and end different executions. He can also use it to switch continuous outputs and programme switches on or off.

This screen is to be protected using a password (the user password).

• The function menu allows the installer to define and configure the complete system. Using the function menu, the installer can, for example, program the different parts of the user keys. This is why the user keys can and will differ from system to system.

This screen is to be protected using a password (the technician password).

HARDWARE

GENERAL

The APOLLO III device is equipped with a new, sophisticated bus system. Thanks to this system, communication from and to the connected peripherals is possible. Every peripheral communicates through an interface, an intelligent part of the device which speaks the new APOLLO III protocol.

An interface can also be a convertor to the old (APOLLO II) protocol, so the existing compatible expansions for the APOLLO II can be connected to the APOLLO III device.

10 interfaces at the most can be connected to the APOLLO III device.

Interfaces can consist of a number inputs, a number of outputs or both. Every interface can contain 100 inputs and 125 outputs at the most.

It is also possible to connect a couple of special interfaces, such as a dynamic carillon, MIDI interface or digital sound module.

The APOLLO III device can also be connected to an Ethernet. The APOLLO III device supports IPv4 as well as IPv6.

This way, one can take over the APOLLO III screen to control or program the device remotely from his own network or even from the internet, using a pc, tablet or smartphone.

It is also possible to send melodies from a pc to an APOLLO III device or retrieve them again.

Backups can be send from and to the device this way as well.

Finally, it is possible to retrieve the print containing the whole APOLLO III programme and the logging of the device via the network.

VERSIONS

There are several versions of the APOLLO III device available. These versions differ from each other in the number of outputs and the number of extra possibilities available.

Which version you have, depends on the SD card of the APOLLO III device. This SD card contains the licenses of the bought options. This means it is possible to transfer the possibilities of a APOLLO III device to another device by introducing the SD card in the other device.

When the APOLLO III device becomes defective after, for example, a lightning stroke, you can install another (basic) APOLLO III device and transfer the licenses by simply introducing the SD card into the replacement device (on condition that the SD card is not damaged).

You can also buy extra possibilities by simply ordering a new SD card (with the desired licenses) at Clock-O-Matic.

You can check which options you have in Function 17 06 Information device.

OPTIONS

MIDI INTERFACE

THE MIDI interface is connected by means of an USB stick. APOLLO III supports both incoming and outgoing MIDI.

The MIDI option needs to be installed in order to be able to use the connected MIDI interface.

RADIO TIME RECEIVER

Automatic radio synchronisation of the device is enabled by DCF, MSF or GPS synchronisation.

NTP

NTP or Network Time Protocol enables automatic synchronsiation of the device via a local network or via the internet.

DTMF INTERFACE

Using this interface, up to 100 different executions can be started by using DTMF signals (the audio signal which is emitted when you press a telephone key). This way, the APOLLO III device's executions can be started remotely. The DTMF interface can be used with a landline, a cellphone modem or a DECT device.

DIGITAL SOUND MODULE FOR BELLS

This interface allows one to produce real bell sounds of a very high quality, both for tolling and swinging.

DIGITAL SOUND MODULE FOR SONGS

This module looks like the module explained above, but produces fixed songs or announcements instead of bell sounds.

DYNAMIC STRIKERS

APOLLO III can be used to control a carillon that has dynamic strikers. Thanks to the communication between the dynamic striker controller, the device knows exactly how many and which strikers are available.

REMOTE ACCESS

In order to take over the APOLLO III screen using your own network, or even via the internet, a pc, table or smartphone in order to control or program the device remotely.

ELECTRICAL AND MECHANIC PROPERTIES

Power supply: 85 – 264 VAC (absol	ute maximum)
Power consumption (device without idle (screen 25% brightnese idle (screen 100% brightnese max.	ut options): ss) ~10 W ess) ~15 W 25 W
Network connection:	RJ45, IEEE 802.3i / 802.3u compatible 10/100Mbit/s autonegotiation
Network protocol:	IPv4 and IPv6
Address assignment	dhcp (RFC 2131)
Supporting protocols	Avahi (Zeroconf, mDNS, DNS-SD and RFC 3927/IPv4LL)
	Network Time Protocol (NTP) version 4 version 3 compatible with RFC-1305, version 1 & 2 compatible with RFC-1059 & RFC-1119 SETP version 1 & 2
	on gates 22 and 2222
	http on gate 80 to consult the prints of the programming
	VNC (RFB 3.8) on gate 5900
Fuse:	2A T (Total of APOLLO III + Users via 10 relays)
Battery:	
An internal timekeeper ke equipped with a maintena keep working for 10 mont	eeps track of the internal time of the APOLLO III device. This timekeeper is ance-free rechargeable battery. This battery allows for the timekeeper to ths in case the device gets cut off from the power supply.
Housing:	ABS/PC UL94-V0
Dimensions (w x l x d) :	25 cm x 31 cm x 8.3 cm (external dimensions)
Necessary opening when device is	built into a cupboard or panel: 23 cm x 29 cm
Weight:	1.6 kg

CE-STANDARD

The device complies with the following standards:

SECURITY STANDARD

EN 60950: This standard outlines the safety conditions of electrical information equipment. The APOLLO III device is provided with a short circuit protection. The APOLLO III device is also provided with a general switch. This switch is situated at the right-hand side and disconnects the device from the power supply. Always disconnect the device from the power supply before opening it. Within the device, there is a partition which separates low voltage (< 24 VDC) from high voltage (230 VAC). Therefore, it is very important to connect the wires for supply and supply circuits (all 230 VAC wires) underneath. The connection wire for the Radio Time Receiver is located in the top of the device. The connection terminals of the APOLLO III device cannot be used to connect wires with a cable section larger than 2.5 mm².

ELEKTROMAGNETIC COMPTABLILTY

EN 50081-2: Generic Emission Standard EN55022

EN 50082-2: Generic Immunity Standard

EN 61000-4-2: Electrostatic Discharge (ESD)

EN 61000-4-3: Radiated Electromagnetic Field

EN 61000-4-4: Electrical Fast Transient/Burst

EN 61000-4-5: Surge Immunity

Concerning this standard, it is important that final user also keeps some rules in mind. To prevent possible interference, it is important to keep the signal wires (e.g. for the connection of a DCF receiver) away from sources of interference such as motors, computers ... Also make sure that the DEC antenna's leads are separated from the power wires.

HARDWARE

USB connections, internal	
USB connections, external	2
Network connections (10/100 Mbit)	1
Audio from connections	1
SD card slots	1

Number of interfaces to be connected:	
(does NOT include digital bell sound and dynamic strikers)	
Maximum number of outputs per interface	125
Maximum number of inputs per interface	100

SOFTWARE

Continuous outputs	10
Swing	20
Strikers (C0 up to and incl. G8)	104
Sequences	100

Playlists	100
	+ 2 players
User keys (number of keys)	66

PROGRAMMES

	one-time	permanent
Swing programmes	24	300
Melody programmes	24	200
Sequence programmes	24	200
Playlist programmes	24	200
Continuous programmes	24	100
Heating programmes	24	100
Switch programmes	24	200

NUMBER OF MELODIES

	Internal memory	SD card
MIDI	100,000	10,000,000
MP3	300 min	30,000 min

POWER FAILURE

All bell functions will be stopped in case of a power failure. Bell functions mean swinging, tolling and playing melodies on the bells. The continuous outputs and programme switches will, however, continue internally. When the power is restored, the continuous outputs and programme switches will be switched on again. In this case, the duration of the power failure will be taken into account.

Example: Continuous output switched on at 8:00 h for 4 hours

- 1. Power failure at 10:00 h.
- 2. The continuous output continues internally (even without power supply).
- 3. The power supply is restored at 11:00 h.
- 4. The APOLLO III device switches on the continuous outputs until 12:00 h.