

## CM9001 Technical Specifications

Comfort CM9001 is an integrated Security and Automation System with Voice Menu, operated by keypad telephone, and mobile apps.

### Inputs

- 8 programmable zones on CM9001, expandable to 16 or 24 with Local Expansion Modules, and 96 with Slave Expansion Module
- Each zone/input is software configurable for 0 or 2 EOL resistors.
- Dedicated Tamper Input
- Up to 31 predefined Zone types to simplify zone configuration
- Programmable Sensitivity of 20 ms to 850 ms for each zone type
- Able to cater for shock sensors using Zone Sensitivity and Pulse counts
- Surge protection on all inputs via varistors and Transient Voltage Suppressors

### General Purpose Outputs

- 8 open collector outputs on Comfort controller, pluggable OP03 submodule for easy replacement
- Local Expansion Module LEM0 has 8 open collector Outputs
- Slave Expansion Module without outputs, can plug in OP03 8 output submodule
- Expandable up to 96 Outputs
- Each open-collector output can be programmed for On/Off or pulsed operation or can send infrared signals through IR01W/IR03W Infrared transmitter
- Surge protection on all outputs (including Bell, Speaker and Strobe) via varistors and surge protection devices

### Dedicated Alarm Outputs

- Bell Output (thermal fuse limited at 1.6 A) 12V with programmable siren patterns
- 8 Ohm Speaker Drive with 20 siren patterns. 2 level setting with Alarms at full volume and adjustable volume for indication and warning tones.
- Keypad acts as internal audible for siren sounds
- Strobe output (12v)

### Power Supply

- Universal Power Supply (15 VDC 1.8 Amps) for CM9001 and Slave SEM01.
- Backup Battery requirement: 12V 7 AH sealed lead-acid battery for CM9001 and Slave SEM01C
- Resettable Fuse protection for power supply
- 1 A regulated auxiliary supply and switched auxiliary supply for detectors for CP9001 and Slave SEP01C
- Supervised for Mains failure, Low Battery and Battery disconnected
- Reverse protection for battery connection
- Current consumption (idle mode, no external load) approximately 150 ma from 12V supply
- Battery Protection cuts off battery when voltage drops below 10.5 volts during Mains Failure

- Current Limited charging of Battery (200 mA)

## Auxiliary Supply Output

- 12V unswitched supply
- 12V switched supply (reset under Response control) for reset of Smoke detectors
- Note: Both auxiliary supplies and 8 Outputs have a combined current limit of 1 A (resettable fuse)

## Physical

- CM9001 Comfort PCB size: 230 x 130 mm. Components max 50 mm height
- CP9001-ULT includes galvanised steel enclosure (310W x 350L x 95D mm, thickness 1.0 mm) and Transformer, Carton Box: 380 x 410 x 165 mm., Weight: 3.5 Kg with enclosure
- SEP01C includes galvanised steel enclosure (310W x 350L x 95D mm, thickness 1.0 mm) and Transformer, Carton Box: 380 x 410 x 165 mm., Weight: 3.2 Kg with enclosure

## Surge, Overvoltage, Overcurrent Protection

- Surge and overvoltage protection on all outputs (including Bell, Speaker and Strobe) via varistors and Transient Voltage Suppressors
- Surge and overvoltage protection on all Inputs via varistors and current limiting devices
- Overcurrent Protection on outputs and 12V supply via Resettable Fuses
- Overvoltage and resettable Fuse Protection on Telephone Line Input

## Telephone Operation

- Dial-in/Auto-answer by Phone.
- Works with any telephone in the home with optional DSI01 Door Station Interface
- Comprehensive Voice Menu for ease-of-use.
- Supervised for telephone line cut.
- Surge and power-cross protection for phone line interface.

## Memory

- Nonvolatile EEPROM memory maintains programming when power is removed.
- Event log remotely accessible by telephone or can be uploaded to PC via Comfigurator

## Security Modes

- 5 security modes allow easy arming and disarming
  - Security Off Mode - System disarmed
  - Away Mode - System fully armed
  - Night Mode - System partially armed.
  - Day Mode - Perimeter doors and Windows only armed.
  - Vacation Mode - Fully armed, but up to 8 vacation responses are activated which turn on and off appliances at randomized times of day.

## Security Features

- Force-Arm option when arming with open zones
- Bypass Zones
- Automatic Arm/Disarm with Time Program

- Remote Arm/disarm (with user authorization)
- Programmable Delay Zones
- Bell Delay and Dial Delay Options
- Programmable authorization levels for each user for Local Arm, Local Disarm, Remote Arm, Remote Disarm, Disarm after alarm, Home Control, Programming
- Away Arm methods: Arm after final door, Arm after delay, Exit Terminator
- Security-linked activation of lights and appliances.
- Voice Announcement of Zone (or chime)
- 4 Partitions(8 partitions for CM9001-EX) , ie independent alarm systems with separate zones, users and keypads, with individual siren outputs for each partition.
- Compliant with EN50131 European Standards for Intruder Alarms

## System Trouble Supervision

- Low Battery. Automatic Battery Test interval
- Battery disconnected
- Mains failure
- Telephone Line cut
- Individual Zone tamper (open-circuit, short circuit) with double EOL resistors.
- Dedicated Tamper Input

## Alarm Types

- 31 programmable alarm types including user-definable alarm types
- Predefined alarm types include Intruder, Fire, Gas, Panic, Duress, Arm, Disarm etc. Each alarm type selects a siren pattern, telephone combination, can trigger a user-defined response, which turns on/off appliances, lights etc. Each alarm type can be set to report to any combination of the telephone numbers

## Dialer / Digital Communicator

- 8 programmable telephone numbers. Each alarm type activation can be programmed to dial to any combination of telephone numbers (split reporting)
- Each number can be assigned to 4 Phone Types: Central station, Voice Phone, SMS (with UCM/GSM4)
- SMS (with UCM/GSM4) automatically displays system ID, alarm type and Zone name or User number
- 2 Central Monitoring station numbers supported with individual account numbers.
- CMS Digital communicator formats supported include Contact ID
- Dialout to voice phone provides announcement of alarm type activated and allows the called party to sign in to interrogate the system or activate 2 way voice option.
- Unique Dial Test Feature allows dialing tones and dial progress to be heard on the keypad.

## Sign-in Codes

3 levels of access:

- 16 user codes with 4 to 6 digits. 99 user codes for CM9001-EX
- Master User (default User 1) able to access User Program Mode
- Engineer code for system and security settings
- Duress code

- Each user code has individual authorization settings for Local Arm, Local Disarm, Remote Arm, Remote Disarm, Disarm after Alarm, and User Program.

## False Alarm Filtering Features

- 2 way voice intercom on Keypad
- Zones may be assigned as Alert or Perimeter zones which require activation of another zone to trigger a confirmed alarm
- Local alarm warning option for entry time-out prior to full alarm (Entry Warning Time).
- 2-resistor EOL allow any wiring short or open-circuit condition to be detected as zone trouble.
- Zones may be programmed as delay zones in Night Mode to prevent false alarms.
- Programmable Zone Count and Interval can be programmed.

## Event Log

- 600 events
- Full voice log, with date/time stamp and voice description of events
- Local or remote access to event log.
- Read to PC for Saving/viewing/printing
- Events Reported: Arming and Disarm (with user number), Zones triggered, Zone Troubles, Zone Bypass and Unbypass, Alarm Types activated, Time/Date Change, System Reset, Dialout Attempts and acknowledgment

## Time Programs

- 32 Time programs are available for Control of Home appliances/lights or Auto arming or disarming
- Each Time Program can be set to activate on any combination of day of week (Monday to Sunday) as well as public holidays. Up to 16 public holidays may be programmed. Programmable for Automatic Daylight Savings adjustments.

## Real Time Clock/Calendar, Sunrise/ Sunset Times

- Real time clock with calendar
- Automatic time adjustment for Daylight saving
- Sunrise/Sunset times programmable by City or location coordinates.
- ETH03 ethernet interface allows Internet time synchronisation

## Vacation Programs

- 8 Vacation programs can be set to any combination of day of week (Monday to Sunday) as well as public holidays. Each vacation program has programmable Start time and duration, and Response. Start Time and Duration are randomized to simulate human operation.

## Intercom

- 2 way listen/talk on Keypad from any home or remote telephone
- Keypads act as intercoms. Any keypad can talk to all other keypads or to any selected keypad
- Intercom between Door station and Keypad or telephone. (DSI01 for Door station needed)

## Customisation/Programming

Responses (programs) that can be activated by Events like;

- Inputs/Zones activated and Restored,
- Alarm Trigger
- Time Programs/ Schedules,
- Hourly
- Sunset/Sunrise
- Keypad buttons
- System armed to Away, Night Day, Disarmed to Security Off
- Doorbell
- Counter Changes
- Sensor Changes

If/Then/Else Conditions can be used in Responses

## Telephone Answering machine

- Digital Answering machine with 10 minutes of recorded messages for Incoming messages, Greeting message, Mailbox Names, Reminder messages
- 8 programmable mailboxes with individual sign-in codes.
- Recorded messages with individual time/date stamps.
- Recordable greeting message
- Remote access of messages by telephone
- User-programmable Ring count for answering and message time.

## Keypads

- Built-in microphone and speaker, IR receiver
- One touch arm to Away, Night, Day Modes
- Two-button Panic and Fire emergency keys
- 16 Programmable short cut function keys
- Full-duplex Intercom with other Keypads, Door Station, works as Baby Monitor
- Status LED indicators for armed/disarmed, trouble, alarm, new message, power fail, low battery, microphone in use.
- Up to 15 per system
- KP04A with Infrared receiver, speaker. microphone 2 x 16 LCD
- KP06A with Infrared receiver, speaker. microphone 2 x 16 LCD, System 55 Frame

## Door Station Intercom

- When the doorbell is pressed in Home or Night Mode, the home phone will ring. The home phone or keypad can be used to talk to the visitor. In Away or Vacation Mode, the system dials out to the preprogrammed phone number to allow direct conversation with the visitor. Optionally asks the visitor to record a message if no one answers the call.
- DSI01 Door Station Interface required for Door station to ring the local phone

## Configurator Software

Windows -based Installer software (requires UCM/USB or UCM/Eth03) for

- Read, Write, Save and Load system configuration

- Detect Modules on Comfort Bus
- Viewing, saving and printing Event Log
- Response Wizard for creation and editing of Responses
- Upgrading Firmware for Comfort, Keypad and other modules
- Upgrading Voice Vocabulary

## External Interfaces

Interfaces to PC for programming with Configurator

- USB
- Ethernet
- Wifi

Interfaces to widely used automation systems;

- KNX
- C-Bus by Schneider
- Modbus
- Velbus
- eHome Green
- “Universal” general interface to user-defined protocol

## Approvals / Test Reports/ Certification

- ETSI EN 301 489-1 & 7:2002 – for Europe safety
- ETSI TS103 021-1,2,3 (2003) – Europe Telephony
- EN/IEC60950-1 Safety of Information Technology Equipment
- AS/NZ CISPR22:2002 – for Australia/NZ EMC
- AS/ACIF 2002 - Australia Telephony
- IDA TS PSTN 1(Singapore) – Singapore Telephony
- SIRIM (Malaysia) – Malaysia Telephony
- TIA-968-A, FCC 47 CFR Part 68 – US Telephony
- FCC Part 15C:2004 (Class B) – US EMC

## Optional Module Types

The following modules can be connected to Comfort on an RS485 bus

- Keypads - max 15
- Keypad with Temperature Sensor KP04AET – max 15 for all keypads
- Door Stations - Max 3
- UCMs - Max 8 including USB, Ethernet, Wifi, KNX, Cbus, Modbus etc
- Slave Expansion Modules - max 5
- IRIO - Max 15
- HIO Hotel I/O max 15
- LEM01/LEM02 Local Expansion Module with 8 inputs, 8 Outputs, connect to CM9001 or SEM

## Part Numbers

- CM9001-ULT Control panel. 8 inputs, 8 outputs expandable to 96 Inputs/96 Outputs, 16 users with Enclosure. 1023 Responses, 32 Time Programs, 16 Reminders, 60 Home Control Menus, 4 Alarm Partitions

- CM9001-EMS Control panel. 8 inputs, 8 outputs expandable to 96 Inputs/96 Outputs, 16 users with Enclosure. 512 Responses, 32 Time Programs, 16 Reminders, 60 Home Control Menus. Extended Sensors with Setpoint Counters, trigger Virtual Inputs for alarms
- CM9001-EX Control panel. 8 inputs, 8 outputs expandable to 96 Inputs/96 Outputs, 99 users with Enclosure. 255 Responses, 32 Time Programs, 16 Reminders, 40 Home Control Menus, 8 Alarm Partitions
- CM9001-OPT Control panel. 8 inputs, 8 outputs expandable to 64 Inputs/16 Outputs, 16 users with Enclosure. 128 Responses, 16 Time Programs, 16 Reminders, 10 Home Control Menus, 4 Alarm Partitions
- CSM03/CT Current Transformer - requires CSM03-PCB
- CSM03-PCB Current Sensor PCB for 2 x CSM03-CT, plugs into 2 adjacent Comfort Inputs
- DS01 Aluminium Door station with monochrome/colour camera options
- DSI01 Door Station Interface. Required for Door Station to ring the house phones and allows house phones to be used to access Comfort voice menu.
- IR01W Infrared Transmitter with cable 1 meter
- IRW03 Infrared Transmitter with stick-on flat emitter with visible LED and cable.
- IRR01 - Infrared Receiver to be used with RIO inputs.
- KP04A LCD Keypad. Up to 8 keypads per system, with IR receiver
- KP04AE Keypad for Environmental Monitoring System
- KP04AET Keypad with Built in Temperature Sensor for Environmental Monitoring System
- KP06A LCD Keypad System 55 frames. Up to 8 keypads per system, with IR receiver
- IRIO01 Intelligent Remote Input/Output Module with 2 Plug in modules with 4 I/O with analog and digital functions
- LEM01B Local Expansion Module 8 Inputs/8 Outputs. Connected to Control Panel or Slave Expansion Module (Max 1)
- LEM02B Local Expansion Module 8 Inputs (0 Outputs). Plugs into CM9001 PCB to save space in enclosure
- LEM03-M2 Local Expansion Module with 16 inputs, no outputs .Connected to Control Panel (Max 1). Not applicable if Slaves are installed in system.
- MSM01 Multi-Sensor Module with built-in Temperature/Humidity Sensor and 4 external Inputs
- RLY01H Relay Module with 4 relays with Normally Open dry contacts for low voltage switching
- SEM01C Slave Expansion Module. 8 inputs, 8 outputs. 1 LEM may be connected locally to provide another 8 inputs and/or 8 outputs. Includes Power Supply and battery charger Size 230 x 130 mm
- SEM02C - Slave Expansion Module. 8 inputs, 8 outputs. 1 LEM may be connected locally to provide another 8 inputs and/or 8 outputs. Requires 12V power supply. Size 130 x 110mm
- TWS01/TWS02 Single/Dual Lighting Control Module (for two way switching)
- UCM/Eth03 - UCM with Ethernet Interface
- UCM/USB - UCM with USB Interface
- UCM/Wifi – UCM with wifi interface
- UCM/CBUS2 - Comfort to Cbus Interface
- UCM/GSM4 - GSM Interface
- UCM/KNX2 - KNX Interface
- UCM/Modbus - Interface to Modbus

- UCM/eHomeGreen - Interface to eHomeGreen system.
- UCM/Velbus - Velbus Interface
- UCM/Universal - Universal programmable Interface to 3rd party systems.
- IRIO - Intelligent Remote I/O with ISM submodules for different analog/Digital functions.
- IRIO/TWS - Two Way Switch Lighting IRIO Module 4-channel
- IRIO/Blinds - Blinds IRIO Module 2-channel
- HIO01 - Hotel Room Control Module
- Language Options. Voice Menu available in English and Chinese, and can be recorded in other languages.

## Manuals Available

- User Manual
- Quick Reference Card
- Installation Manual
- Programming with Configurator

Manuals can be downloaded from <http://www.cytech.biz/manuals.html>

## CP9001 Packaging

- CP9001 Panel Carton dimensions : 368 x 370 x 150 mm (including polyfoam end caps)
- Panel enclosure dimensions: 310 (W) x 350 (H) x 95 (D) mm
- Panel weight : 3.5 Kg

## KP04A/KP05A Keypad Packaging

- Size 85 (W) x 160 (L) x 35 (D)
- Weight: 221 grams.. Carton box dimensions 95 x 167 x 45 mm

## Environmental

- Temperature 0 to 50 deg C
- RH 0 to 95% RH noncondensing

Note: Cytech Technology Pte Ltd reserves the right to change the specifications without prior notice

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