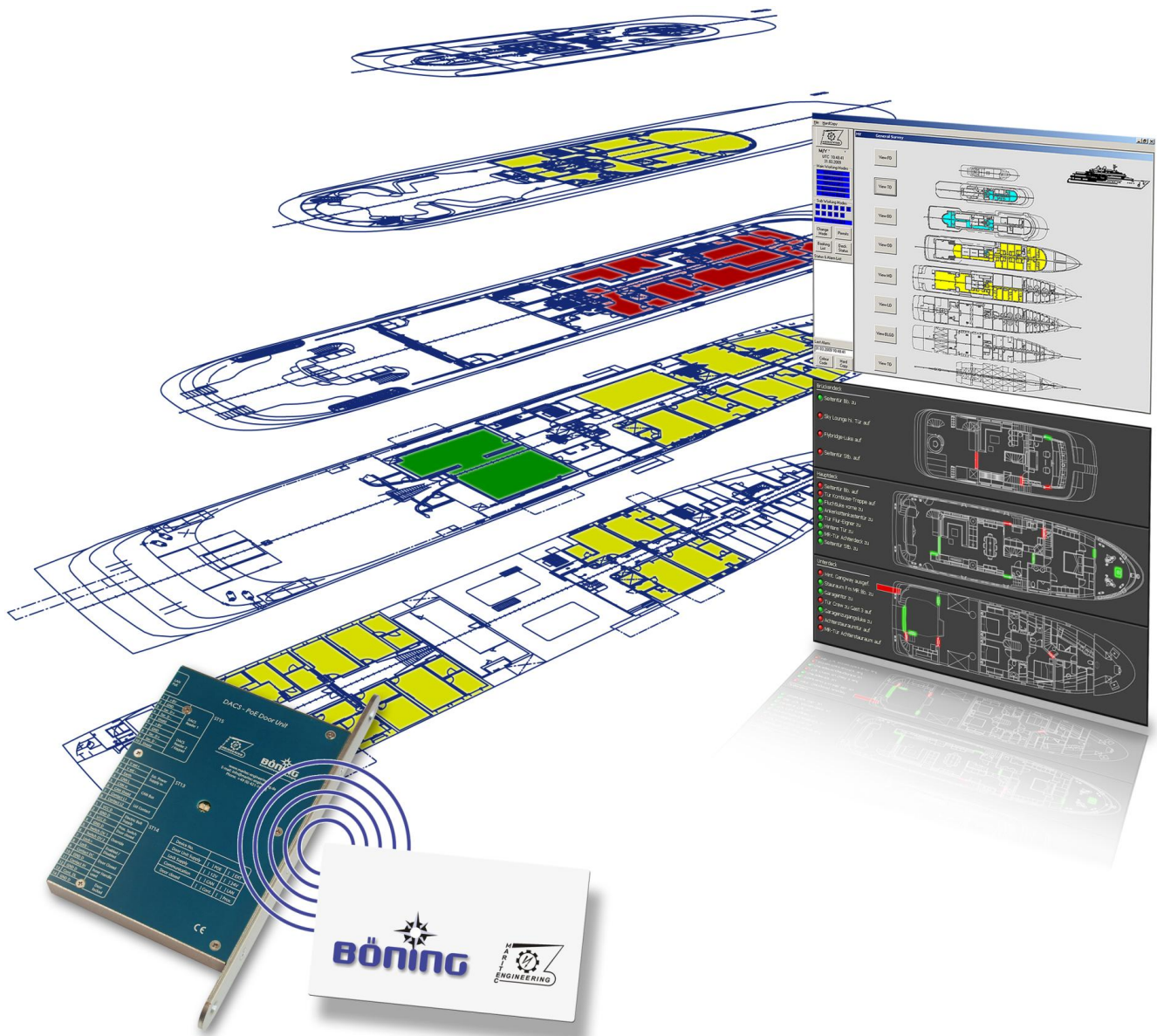


# **D.A.C.S.**

## **Door Access Control System**



- **Modular, decentralized Door Access Control System (D.A.C.S)**
- **State-of-the-art Power-over-Ethernet technology (PoE)**
- **13,56MHz RFID technology for touchless proximity reader**
- **Interface to C.C.T.V security system and paging system**
- **Ultra-flat Door Electronic Unit similar to a panic lock**
- **Monitoring of e.g. Pantograph-/Lift-/Sliding-/Internal-/External-/Shell Doors and Emergency Hatches**
- **In-house product development, manufacturing and distribution**
- **More than 30 years experience in security project design and engineering**

## Introduction

The modular, decentralized Door Access Control System (D.A.C.S) is a security system for yachts and cruise liners.

Doors and hatches are monitored and access authorization is assigned to persons on board by a transponder card. Status changes in monitored areas are presented graphically in simplified deck layouts on PC monitors and logged.

The system complies with the IMO standard for International Ship and Port Facility Security Code (ISPS Level 1-3).

D.A.C.S is beside the C.C.T.V security system (please refer to separate product brochure) the other important part of the high sophisticated Böning Maritec Engineering security system for yachts, mega yachts and cruise liners. Your advantage: They are interfaced and you have only one contact partner for two systems!

Böning Maritec Engineering has more than 15 years experience in the implementation of D.A.C.S and has performed several projects together with well-known shipyards and yacht building agencies. A reference list can be issued on request.

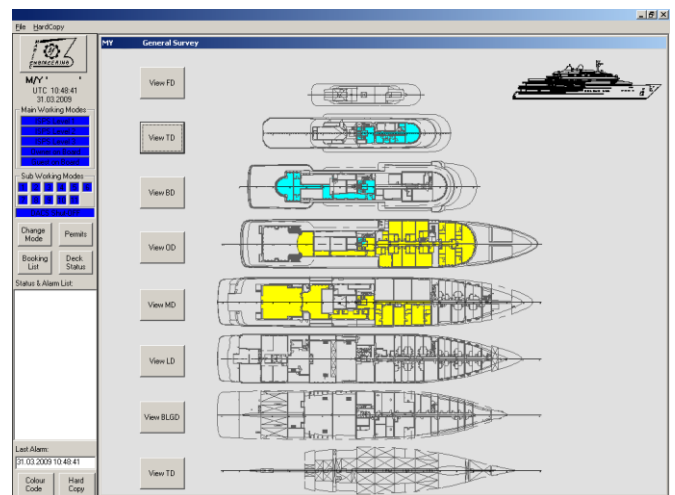
Our professional D.A.C.S team consists of several skilled electrical and project engineers. Product development, manufacturing and distribution are carried out from one source, ensuring the best quality. All products are made in Germany. Commissioning is performed by our professional specialists in cooperation with the shipyard.

The system is customized to your imagination. Our main objective is the implementation of our customer's experiences and demands. Customer-specific designs and arrangements have been implemented in each project. This fundamental approach differs us from most of our competitors and leads our projects to outstanding success and security staff acceptance.

## System Description

All data, e.g. 2D-laser scanner, ultrasonic barriers, video motion detectors, door/hatch status, local panic or override buttons and entrance requests are visualized on TFT-displays in a simplified deck arrangement graphic. In case of an alarm, the respective device is indicated on the deck arrangement together with a more detailed section of that area (as far as applicable).

A message box with the last system changes and an alarm box with the last system alarm are displayed.



*Deck Arrangement Graphic*

When a SABOTAGE or INTRUDER ALARM is not acknowledged by the SECURITY staff within a preset time (60 sec.), an alarm message is transmitted to the ship's paging system. When this also remains unacknowledged within a further preset period, the alarm will be transmitted to the Ship's Common Alarm System.

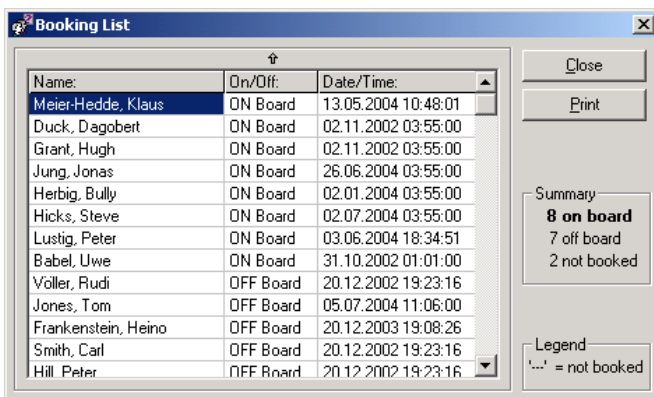
The entire administration, e.g. user administration is performed and stored on the SYSTEM PC. The configuration is downloaded to each device. Furthermore the SYSTEM PC is used after personal identification with a transponder card to arm or disarm (ISPS Level 1-3) the system. The observation status of particular areas is managed by selecting the related working modes.

## Components and Devices

In a password protected configuration form of the SYSTEM PC, "Person Entry Groups" with different characteristics for ISPS Level 1-3 including classified doors and "Weekly Entry Times" can be defined and combined with personal data of the owner, guests, crew or e.g. day workers. Transponder cards with personal photo and colour code for access areas are created and printed by the system.

A "Service Function Mode" (Mode "door permanently unlocked") for service doors and all other doors can be activated at the SYSTEM PC or at each door by the service staff and is signaled at the reader and monitored and recorded by the system.

ON/OFF board Crew Booking for critical security, boarding and muster areas is provided for safe and easy person recording. The Crew Booking status is monitored on any PC and can be printed.



Name:	On/Off:	Date/Time:
Meier-Hedde, Klaus	ON Board	13.05.2004 10:48:01
Duck, Dagobert	ON Board	02.11.2002 03:55:00
Grant, Hugh	ON Board	02.11.2002 03:55:00
Jung, Jonas	ON Board	26.06.2004 03:55:00
Herbig, Bully	ON Board	02.01.2004 03:55:00
Hicks, Steve	ON Board	02.07.2004 03:55:00
Lustig, Peter	ON Board	03.06.2004 18:34:51
Babel, Uwe	ON Board	31.10.2002 01:01:00
Völler, Rudi	OFF Board	20.12.2002 19:23:16
Jones, Tom	OFF Board	05.07.2004 11:06:00
Frankenstein, Heino	OFF Board	20.12.2003 19:08:26
Smith, Carl	OFF Board	20.12.2002 19:23:16
Hill, Peter	OFF Board	20.12.2002 19:23:16

Close  
Print

Summary  
**8 on board**  
7 off board  
2 not booked

Legend  
'...' = not booked

*Booking List (Example)*

When booking "OFF-Board" the crew database is set to "Suspended". When entering the boat and presenting the card to the booking reader, the card is reactivated automatically by the system after a security guard confirmation.

Status information for ISPS Level 1-3, all working modes and requested automatic camera selections are transmitted to the C.C.T.V. security system.

A central Ethernet connected SYSTEM PC with protocol and transponder card printing function is located in the security office.

At least one Crew Mess INFO PC for data presentation only and one portable WLAN SECURITY INFO PC for data and C.C.T.V presentation is part of the system.

The Door Electronic Units deal with the entrance request entered through the individual "Touchless Reader" based on RFID technology. When entrance is granted the units transmit an "OPEN" command to the respective lock.



*RFID Touchless Reader with transponder card*

Doors locking a primary or secondary escape route are equipped by the yard with a local "Override" button to allow a local emergency release.

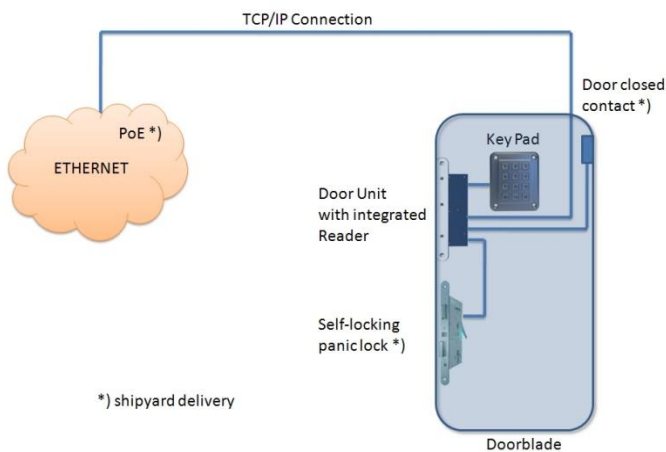
A central D.A.C.S. system "Control Shut-OFF" button is installed in the Bridge Safety Station together with a two minute delayed Fire Alarm System contact to release all doors, however, the status information is still monitored and recorded.

A separate ALARM unit is continuously checking all electronic units of the system for SABOTAGE.

The D.A.C.S electronic units are powered by PoE from the ship's online UPS system.

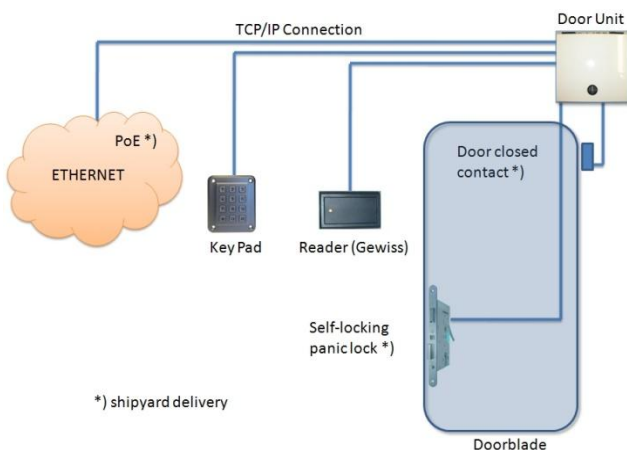
## PoE Electronic Unit

The new generation of D.A.C.S. Door Access Control System electronic is a state-of-the-art stand-alone operating electronic board with integrated long distance proximity reader. It is powered by PoE and based on the latest microcontroller-technology. It is installed above the panic lock directly into an internal non-metallic door blade. The unit is connected to a panic lock, a 'door closed' proximity switch and an optional keypad for door surveillance & monitoring. Due to PoE only one LAN cable is necessary for power supply and data transmission.

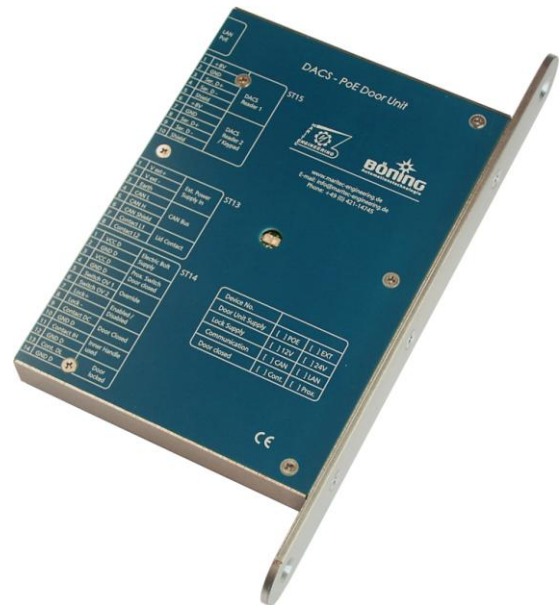


*Door Unit with integrated Reader*

The electronic unit can also be installed in a wall or ceiling mounted IP 54 connection box for steel doors. An external touchless proximity reader is located next to the door together with an optional keypad.



*Door Unit for wall or ceiling mounting*



*PoE Electronic Unit (Door Electronic Unit)*

### Technical Data, PoE Electronic Unit:

Dimension W x H x D: 24 mm x 235 mm x 124 mm  
220 mm x 200 mm x 120 mm  
(Casing wall mounting)

Backset: 60 mm or 65 mm

Forend W x H: 24 mm x 235 mm

Weight: appr. 0,45 kg  
appr. 5,00 kg  
(Casing wall mounting)

Operating temperature: 0°C ... +70°C

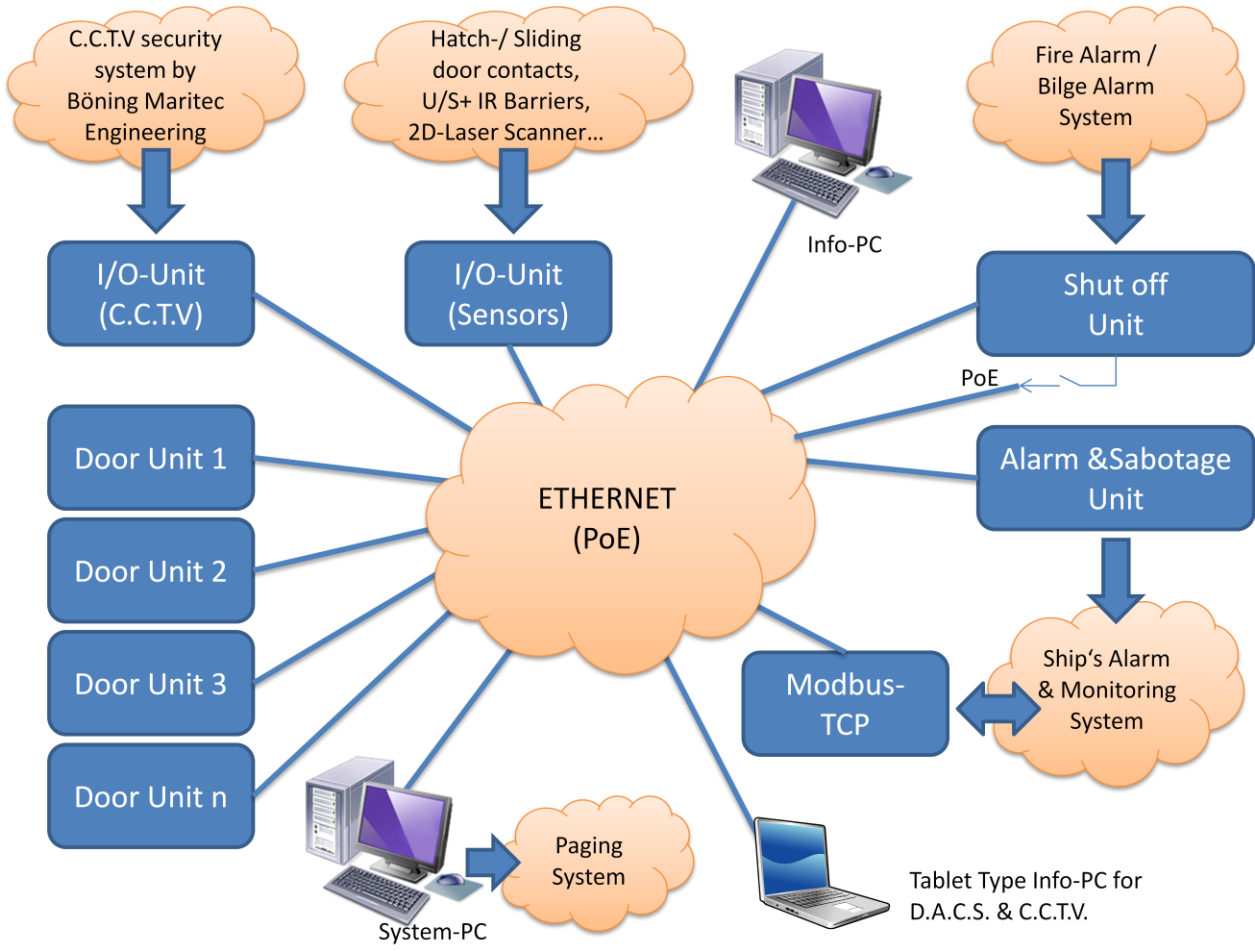
Storage temperature: -30°C ... +85°C

Degree of protection: IP 67 (front side), IP 20 (rear side)  
IP 54 (Casing wall mounting)

Interfaces/Connectors:

- Ethernet LAN with PoE (RJ45)
- External Reader No.1
- External Reader No.2 or keypad
- Self-Locking Fail-Safe Panic Lock (Yard supply)  
(24 VDC / 125 mA, 12 VDC/ 250 mA)
- Add. external power supply for electric bolts  
(max. 24 VDC / 2A)
- Status contact "Door locked" and "Inner door handle used"
- Proximity Switch (Yard supply)  
(24 VDC / 12 VDC)
- "Override" and "Shut-Off" function
- Lid-contact connection box

## D.A.C.S. System Overview



*Basic System overview*

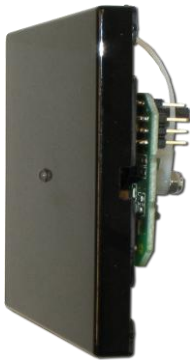
## Additional Devices

### Böning-manufactured Products

Touchless Reader (RFID-Technology 13,56MHz) implemented into standard housings matching the interior design: Housing series manufactured by Bticino, Gewiss, Jung, Merten, etc.



Reader, Bticino type



Reader, Merten type



Booking Reader



19" Plug-in I/O-unit

Further products:

- I/O Unit
- ModBus-TCP Unit
- Alarm/Sabotage Unit
- Shut-Off Unit

### External Products

Special features for external products used within D.A.C.S.:

- Well-known manufacturers
- Spare parts are provided worldwide



Keypad

Card Printer:

Self-fashioned cards with predefined design.



Card Printer e.g. Fargo DTC400

Further products:

- System-PC
- Info-PC
- Tablet Type Info-PC
- Digital Photo Camera
- Transponder Cards + Key-Fobs

## Minimum Specification for a SECURITY Panic Lock

- Electric SECURITY lock with Panic-function i.e. self-locking, controllable outer door handle and free access at any time from inside
- **Fail-safe/unlocked version**, i.e. de-energized for external lever handle engaged
- Max. power requirement:  
**24VDC / max.125mA - 100% ED**
- Integrated, **potential free two-way-contact** to monitor :
  - **inner handle** - not used/used
  - **deadbolt (profile cylinder** - disengaged)
 secured cable way door blade -> door frame (lead cover)
- **Approximate switch** or **roller-type contact** in door blade or upper door frame or at the hinged door blade side, to monitor 'door closed'
- Cable installation between panic-lock, door contact, key-pad and Ethernet LAN to be *in* the secured area

The monitoring of the 'Door Closed/Locked' will be realized by:

- The contact 'deadbolt' together with the mechanical triggering
  - of the auxiliary latch and the lagging latch bolt
  - and electrically by ...
- the connection of deadbolt contact and door frame contact



SECURITY Panic Lock (Example)

Examples of SECURITY Panic Locks already used and well-proven in various Projects and applications:

Manufacturer	Article
Dorma	SVP 6000 TV500
Assa Abloy (effeff)	809 843 332

Additional electric bolts or heavy locks for external doors with a power supply of up to 24VDC / 2A can be controlled.

**Important Note!**  
**Locks are not supplied by Böning Maritec Engineering!**

## Installation Scheme for D.A.C.S. Door Unit

