HYDAC INTERNATIONAL

Mobile Display Optically Bonded
HY-eVision² 7.0

Description

The compact backlight 7" TFT colour display with integrated high-end eVision² display controller is notable in the optically bonded version for its superb image quality, low reflection, high colour saturation as well as an optimal readability, even under the worst of lighting conditions.

The display is protected by a robust metal / plastic housing and can either be installed either externally or directly into the instrument panel or surface-mounted in the field of vision of the driver / operator using a RAM Mount® system in the cockpit.

Ten programmable illuminated control keys create an easy-to-use human-machine interface.

Up to two analogue cameras and two Ethernet cameras can be connected to give the user optimum visibility around the vehicle.

Thanks to the optical bonding between the TFT display and front glass, condensation effects can be almost entirely eliminated. Optimal readability is thus possible even under the most challenging environmental and lighting conditions.

Special features

- 7.0" monitor with large angle of view, high contrast ratio
- Programming in CODESYS V3
- Display/creation of PDF files and animations, 3D capability
- 2 analogue camera interfaces with picture-in-picture feature
- Up to 2 digital Ethernet cameras can be connected
- Up to 4 CAN, USB 2.0 Host, RS232, Ethernet
- Real-time clock
- Sleep mode with shutdown
- Wake-up pin and wake-up timer
- Operation possible in 12 V and 24 V systems
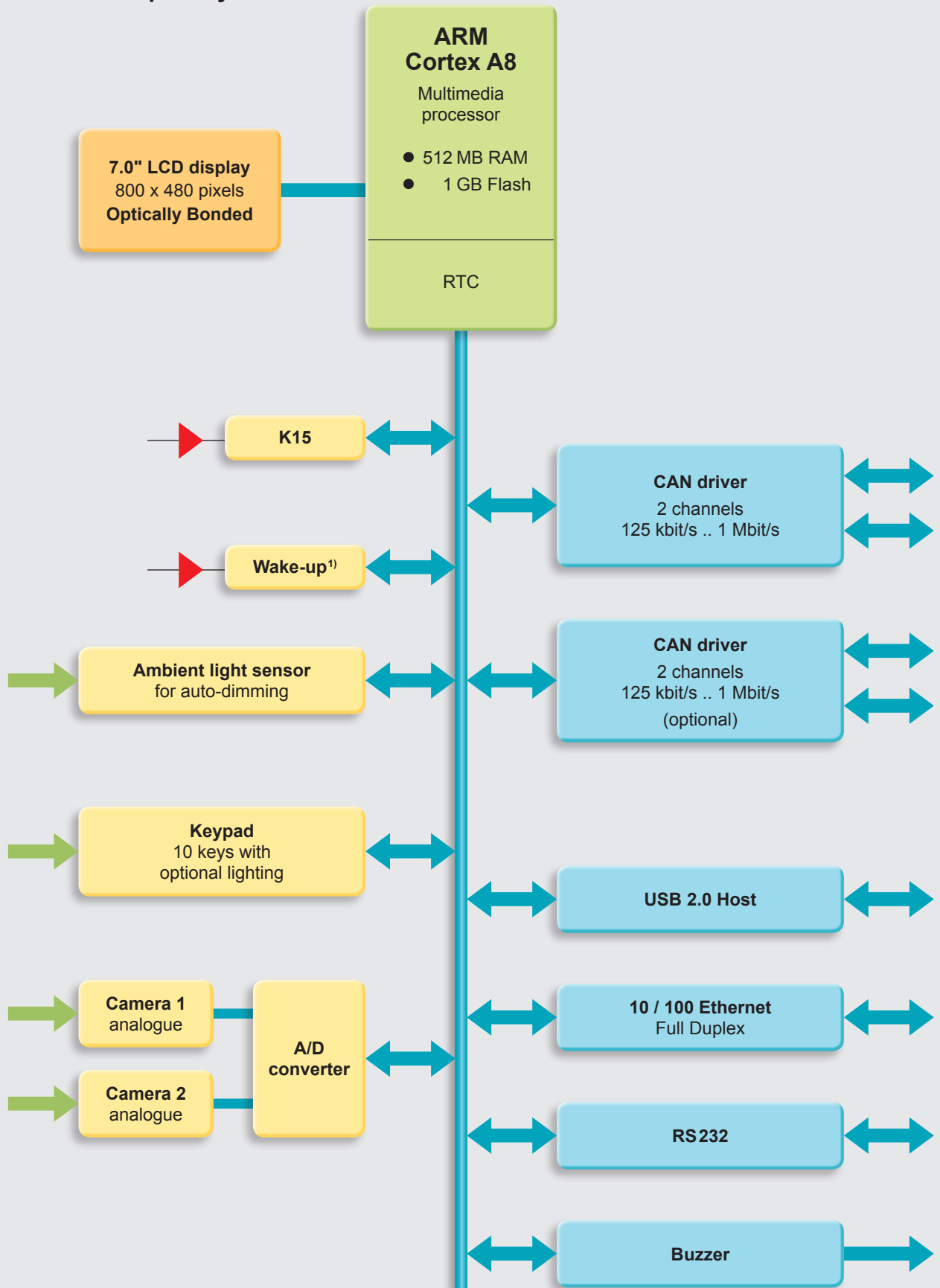- Waterproof and dustproof IP 6K5 housing
- E12 type approval

Technical data

Environmental conditions	
Operating temperature	-30 .. +60 °C (environment)
Storage temperature	-30 .. +80 °C
Supply voltage	9 .. 32 V DC
Fulfils the following standards	
CE mark	Compliant with 2014/30/EU
E-mark	ECE-R10
EMC	EN 13309
ESD	ISO 10605
Electrical	ISO 16750-2, ISO 7637-3
Protection class	ISO 20653 IP6K5
Temperature	ISO 16750-4
Vibration, shock, bump	ISO 16750-3
Dimensions and weight	
Housing dimensions	235 x 135 x 52.4 mm
Housing material	Robust powder-coated die-cast housing on front
Weight	1.2 kg
Display	
Screen diagonal	7.0" (17.8 cm) / 16:9 format
Pixels	800 x 480
Active area	152.4 mm x 91.44 mm
Pixel size	0.1905 mm x 0.1905 mm
Luminance	500 cd/m²
Viewing angle	Vertical: ±60° / horizontal: ±70°
Contrast ratio	600:1
Reaction time	5 ms
LCD type	TFT (active matrix)
Backlight	LED
Life expectancy of backlight	≥ 50,000 h at +25 °C (constant)
Features	
LCD with backlight and high contrast	
Auto-dimming via ambient light sensor	
32 bit ARM Cortex A8 microcontroller, 800 MHz, 1 GB Flash, 512 MB RAM	
34-pole Tyco central male connector	
K15 for ignition input	
2 x composite video interface for external camera	
2 x CAN (optionally 4 x CAN) interface, 125 kbit/s .. 1 Mbit/s	
1 x RS232 and 1 x Ethernet interface 100 Mbit/s	
1 x USB 2.0 Host	
Real-time clock (buffered with GoldCap)	
Buzzer	
Sleep mode (wake-up < 0.5 s) with shutdown function	
Wake-up pin (except for 4 x CAN variant), wake-up timer (via RTC)	
Programmable in CODESYS V3 with improved target visualisation including support for CANopen® Master	

Note: All external interfaces (except USB) are protected against short circuit to GND and BAT+.

Block circuit diagram

HY-eVision² 7.0 – Optically Bonded

ARM Cortex A8

Multimedia processor

- 512 MB RAM
- 1 GB Flash

RTC

7.0" LCD display
800 x 480 pixels
Optically Bonded

K15

Wake-up[1]

CAN driver
2 channels
125 kbit/s .. 1 Mbit/s

Ambient light sensor
for auto-dimming

CAN driver
2 channels
125 kbit/s .. 1 Mbit/s
(optional)

Keypad
10 keys with
optional lighting

USB 2.0 Host

Camera 1
analogue

Camera 2
analogue

A/D converter

10 / 100 Ethernet
Full Duplex

RS 232

Buzzer

[1] Except for 4 x CAN variant

Model code

HY-eVision² 7.0 – CD – P – R – 00 1X 00 – E – 000

Firmware
CD = CODESYS run-time system
     for CODESYS development environment

RAM memory
P = 512 MByte

Flash memory
R = 1 GByte

Functional safety
00 = standard (none)

Equipment options
10 = Optically Bonded
14 = Optically Bonded, with 4 x CAN interface

Operating options
00 = none

Resolution
E = 800 x 480 pixels

Modification number
000 = standard

Note
On devices with a different modification number, please read the name plate
or the technical amendment details supplied with the device.

Accessories
Appropriate accessories, such as cable harnesses, cabling and connection
technology, service tools and software can be found in the Accessories section.

Note

The information in this brochure
relates to the operating conditions
and applications described.

For applications or operating conditions
not described, please contact
the relevant technical department.

Subject to technical modifications
and corrections.

Dimensions