

A woman with long dark hair, wearing a brown sweater, is pointing her right index finger at a large digital display. The display shows a grid of colorful product images, likely in a retail or pharmacy setting. The background is slightly blurred, showing shelves and other products.

CCV InSync CCV InSync C

System Manual

let's make
payment
happen





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1. Purpose

These specifications shall facilitate the integration of the self-service terminal CCV InSync into a vending machine

2. Scope of application

Customers, integrators, network operators, (CCV- EW, SA, PM)

3. Terms and abbreviations

BMP	Bitmap
DK	Deutsche Kreditwirtschaft (German Banking Industry Committee) (previously ZKA; http://www.die-deutsche-kreditwirtschaft.de/)
EMC	Electromagnetic compatibility
EW	Development
Executive	Protocol A
CCV InSync	3in1 Terminal for installation into vending machines indoors and outdoors.
CCV InSync C	Contactless Terminal for installation into vending machines indoors and outdoors.
O.P.I.	Open Payment Initiative
PM	Product Management
SA	Sales
TKS	Terminal Configuration Server (server for terminal updates)
TMS	Terminal Management Server
TS3	Terminal Supervisor 3 (administration tool for use by integrator or service company)
WA	Vending machine
ZKA	Zentraler Kreditausschuss (Central Credit Committee, see DK)
ZVT	ZVT cash register interface
nWAKE	negative wakeup signal (bidirectionally (input & output): Every device connected to the MDB can low supply the line to activate other devices.
MDB	Multi Drop Bus

4. General

4.1. Safety Information

- The system handbook should be studied before integrating the product into vending machines, as this contains important information regarding installation.
- Damage resulting from not following the guidelines or from incorrect operation will void the guarantee. No liability will be accepted for any consequential damage.
- No liability will be accepted for damage or injury resulting from incorrect operation or from failure to observe the safety guidelines.
- Integration of the product may only be carried out of qualified by electrical specialists (i.e. electrician), according to the relevant regulations (i.e. VDE, CE).
- If you have no specialist knowledge regarding the installation, do not carry this out yourself. Installation should only be carried out by a qualified specialist.
- Never remove the power supply or the card-reader from terminal, whilst this is performing a payment or other active functions (i.e. display indication „please wait...“). Please contact your network provider if such a message appears for a longer period.
- Change the card-reader only if the power supply is disconnected.
- The terminal is certified for cashless payments in various countries, dependent on the network provider / acquirer. Operation outside of Germany is to be agreed in consultation with the relevant trade partner.
- Never try to open the terminal. Unauthorized opening leads to deletion of all secure data, activating the fraud function and setting the terminal out of order. This also voids the warranty.
- Never submerge the terminal in water, throw into fire or expose to high humidity. The device should be cleaned with a soft damp cloth. Do not use chemical cleaners.
- Repairs may only be performed by authorized agents of CCV.
- Do not expose the device to temperatures outside the approved limits.
- Keep sufficient distance to mobile phones and wireless devices because these may cause interference. This is not necessary for devices that are able to perform a contactless transaction (e.g. mobile with NFC interface).
- Please obtain regular information about available and/or necessary updates or product extensions (Hotline of your network operator).
- Following software updates, telephone installation changes, or other changes to the terminal the complete payment operation including closing should be tested.
- Damage to or removal of the identification labels and seals on the equipment will void your warranty.
- One mounting screw of the terminal must be connected with the grounding of the local electrical system. The grounding must not be connected to a floating ground or a phase (see chapter Installation Instructions).



4.2. Important information for use

4.2.1. Important duties to cooperate



- The installation instructions as described in the system manual must be followed, particularly in view of mechanical, electrical and operational guidelines (ESD-electrical grounding).
- Check the integrity of the CCV InSync. Check if the CCV InSync shows damage and manipulation and the seal is unbroken. If you detect damage, tampering or a broken seal do not operate the CCV InSync. Contact the support at proffline@de.ccv.eu.
- Important! Please ensure that the terminal is connected, configured and tested so as to execute updates via remote maintenance server TKS. Please also ensure possibility that updates can be initiated via the vending machine interface or the network-provider. In installation lacking a network connection where remote maintenance is not possible, it must be ensured that the integrator carries out on-site updates using Terminal Supervisor 3 or USB and that additional costs will occur.
- It must be ensured that software tools (Terminal Supervisor 3, Updatempp, etc.) are regularly updated. The current versions are available from the CCV download server. (<https://download.ccv-deutschland.de>)
- CCV points out that regular operational and security relevant updates could be required. Not carrying out these updates can lead to loss of approval and/or malfunction. CCV notifies of necessary updates in an appropriate time of period via release-notes. The provision of updates during the guarantee period is free. CCV is not liable for malfunctions or damage caused by lack of maintenance updates or maintenance errors due to the customer.
- CCV supports you during the initial installation of the product into vending- or other machine, and recommends a joint check of your vending-machine/terminal integration on-site prior to piloting, so that typical problems can be eliminated in advance. Please contact your reseller or CCV directly for details of this.
- Following expiry of the warranty period it is possible to purchase software-updates or a part of a previously contracted software maintenance contract. Necessary updates are documented in the release-notes. Software-updates are generally only available for a fee. Further details are available in consultation with your sales partner.

4.2.2. Cleaning

Clean the housing of the terminal with a moist cloth or an anti-static cloth. Do not use chemical cleaning agents. Never use cleaner's benzene, paint thinner or other solvents, otherwise the housing could deform and discolour. Clean the card reader regularly with a cleaning card to prevent reading errors. The cleaning intervals depend on the frequency of use and the individual environmental conditions. Do not use chemical cleaning agents.

Use the intervals stated below as a guideline:

- Indoor devices: 1 x per week
- Outdoor devices: 1 x per day

4.2.3. Warranty

Caution: Never try to repair a terminal. Opening the terminal voids the warranty claim. The device will become unusable and must be replaced.

In case of damages, please contact your service provider.

4.3. System description

The CCV InSync Terminal is a customized payment system for vending machines, power charging towers, self-service systems and kiosk terminals where it is used as a compact and full-featured terminal. The device with its compact design for integration requires a smaller installation cut and significantly less installation space as previous devices but offers the same functionality.

The CCV InSync Terminal consists of a high-quality colour display, contactless, chip and magnet strip reader, LED displays, three proximity sensors and a Bluetooth Low Energy module. Apart from the integrated LAN connection other communication connections such as LTE or GPRS can be realised. The device does not need to be removed for that purpose.

Furthermore, no further components (apart from maybe a receipt printer) are required on the vending machine. The integration effort into a self-service system is minimum.

The stylish CCV InSync Terminal with its bicoloured front, a high-resolution graphic TFT display and small installation dimensions is based on an advanced hardware platform fulfilling highest quality standards and offering a high level of security due to its construction. It is resistant to vandalism, weather-resistant and can be used in a large temperature range. The CCV InSync Terminal is thus suitable for both indoor and outdoor use. It requires the same installation space and the same fixing points as the CCV COR series. Therefore, it can be easily installed everywhere by the integrators.

Due to its advanced hardware platform with extensive memory space, the terminals offer not only multiple opportunities for use but it can always be updated by a software upgrade on site and expanded with new functions and applications.

The smart software update concept offers maximum operation safety. Established service concepts (such as Terminal Supervisor 3 and Terminal Management System TMS) have been adopted into this terminal as well. Therefore, it offers maximum security of investment.

4.3.1. CCV InSync

3-in-1 Terminal:

- EMV chip contacted
- EMV chip contactless
- Magstripe

4.3.2. CCV InSync C

Contactless only Terminal:

- No EMV chip contacted (ICC slot is closed by front housing)
- EMV chip contactless
- No Magstripe (MSR slot is closed by front housing)

4.4. Payment methods

With the CCV InSync Terminal and depending on the network operation, the following payment methods can be carried out:

- girocard, girocard contactless
- Mastercard, Mastercard contactless
- VISA, VISA contactless
- American Express, American Express contactless
- Maestro, Maestro contactless
- V PAY, V PAY contactless
- Apple Pay, Google Pay, Samsung Pay
- SEPA ELV (direct debit system)
- Other credit cards (e.g. diners, JCB, UnionPay)
- Station and fuel cards
- Various customer-specific cards, can be extended via card profiles

- GeldKarte
- girogo

4.5. User guidance

Users of the CCV InSync find it easy to use the terminal – thanks to the intuitive menu navigation and the texts on the big graphic display. The CCV InSync can be managed conveniently via the TS3, available free of charge. The terminal can be installed as an unattended self-service system terminal without PIN entry.

4.6. General technical information

4.6.1. Vending machine and/or cash register interfaces

The cash register connection is realised via a LAN, MDB, Executive or RS-232 interface.

- LAN: Ethernet 10Base-T and 100Base-T, full duplex.
- RS232 interface: a maximum transfer speed of up to 115,200 Baud and hardware handshake are possible.
- MDB (Multi Drop Bus): 9600 Baud interface format for vending machines.
- Executive (Protocol A): Interface format for vending machines, comes in later version

The O.P.I. protocol is additionally available for product and ticket vending machines.

The MDB interface is available for the hardware and software. It supports version 4.2.

The terminal can be connected via the RS232 interface via different transfer speeds (19200, 38400 and 115,200 Baud) to the vending machine or POS.

4.6.2. Display

2.4" TFT colour display with 320*240 pixels (QVGA), graphics with adjustable, high contrast and big viewing angle. It offers a uniform good display, even at low temperatures and sunlight.

4.6.3. Receipt printer

The receipt for payment is output on the printer integrated in the vending machine. It is controlled via the vending machine control.

The vending machine receives the data as completed receipt from the CCV InSync or as data message with all relevant data to create an individual receipt layout (sequence depend on the cash register protocol).

4.6.4. IP/IK protection class

The IP/IK protection classes for the CCV InSync are listed below.

Front	Back
IP44 / IK08	IP32

4.6.5. Status LEDs

On the back of the CCV InSync, there are two LEDs "PWR" (Power) and "SYS" (System) which have the following meaning:

Status	PWR (green)	SYS (red, controllable)
Booting	permanently lit	permanently lit
Terminal ready, waits for login	permanently lit	2x flashing slowly, 2x flashing quickly
Terminal ready, login successful	permanently lit	off
Start-up blocked	permanently lit	1x flashing slowly, 2x flashing quickly
Initialisation blocked / diagnosis blocked	permanently lit	1x flashing slowly, 3x flashing quickly
Fraud triggered	permanently lit	flashing quickly
Not identifiable / other error	permanently lit	flashing slowly

4.6.6. Card slot for store card or SAM

The CCV InSync supports a store card or SAM (format ID-000). The slot is on the back. The store card is changed as followed:

- Carry out a closeout to submit all GeldKarte transactions
- Switch off the device by disconnecting it from the supply voltage
- Replace the store card
- Restart the terminal

4.6.7. Communication

The terminal is connected via an integrated LAN interface for online payment transactions and for service purposes. Alternatively, it is possible to integrate an external LTE/GPRS modem via the serial interface. The terminals support the following types of communication to the network operator host:

- LAN
- Further protocols on request

4.6.8. Interfaces

For a versatile use, the terminal offers a number of usable interfaces. The devices provide the following interfaces to connect external hardware:

- 2 RS-232 interfaces:
 1. POS: Connection of terminal and vending machine or cash register.
 2. COM: Connection of terminal to external communication hardware such as modems
- MDB (Multi Drop Bus): prepares for connection of vending machines with MDB protocol.
- Executive (Protocol A): Connection of terminal and vending machine or cash register.
- LAN interface: Ethernet, 10/100MBit, Auto MDIX.
Communication protocol TCP/IP (other possible on request) e.g. for service PC or host connection.

- USB OTG: (High Speed 480MBit/s and Full Speed 12MBit/s) for host and device connection (e.g. updates and configuration). USB Micro-B.
- USB host: (Full Speed 12MBit/s for connection of e.g. USB-2/3/4G modems or other connections). USB Type A.
- I/O: digital inputs/outputs
- Service: Connection for diagnostic purposes

Note: Further information about the interfaces and their connector attribution are listed in the chapter 6 of this specification.

4.6.9. Protocols

The following protocols are serially available:

a) interface protocols

- ZVT cash register protocol
- Executive (Protocol A) comes in later version
- MDB (Multiple Drop Bus)
- O.P.I.
- Protocol for Terminal Supervisor 3 and TKS
- TCP/IP

b) Host protocols

- POSeidon
- CCV Pay

4.6.10. Software

The CCV InSync Terminal uses a Linux operating system with our company's SECpos EVO software.

4.7. Service

4.7.1. Integration into cash register or vending machine systems

As support for the adaptation or integration to or into the cash register, a development toolkit with the following components is available:

ZVT:

- Detailed documentation of the ZVT protocol (download via <https://www.terminalhersteller.de>).

MDB:

- Detailed documentation of the MDB protocol (download via https://www.ccv.eu/wp-content/uploads/2018/05/mdb_interface_specification.pdf)

Protocol A (Executive):

- The protocol is known under the name Executive and was developed in the 1980s by Mars Electronics International.

4.7.2. Independent commissioning

The terminals are supplied with a basic configuration. Due to the configuration created on agreement with the network operator, the terminal can be commissioned automatically by entering the terminal ID.

For specific connections (e.g. LAN with VPN), the required setting can also be made manually.

Note: The degree of the independent commissioning depends on the predetermined basic configuration of the network operator.

4.7.3. Software update

The terminals offer a complete, reliable software download without requiring a technician on site. Via the terminal configuration server (TKS) or the Terminal Management System 2.0 (TMS2.0), automatic software updates can be carried out.

This makes it very easy to expand devices already installed with new functions/applications and keep the entire inventory always on the same unified, latest version.

Updating the software can be done via one of the following procedures:

- Conveniently via online connection via the TKS or the TMS2.0. The host can determine the automatic selection of the terminal on the TKS per TKM command at any time. It is not necessary for the retailer to carry out any steps in the procedure.
- With the free service software Terminal Supervisor 3 (TS3) via the service interface of the device – connected directly per LAN or USB to a PC or notebook. Please observe that the data transfer can be interrupted in a USB connection. The data transfer can be continued after restarting the CCV InSync. An update via LAN is recommended.
- The terminal can also be updated via the USB-OTG interface. The required update package must be provided by CCV.



Please observe that the terminal must not be disconnected from the power supply while updating the software. Otherwise, the update might be activated only in part and the device must be sent to CCV.

4.7.4. Maintenance and troubleshooting

With the terminal configuration server TKS/TMS2.0, it is not only possible to update the software but also to configure terminals, load and enable new cards (e.g. new customer cards) and to check user interactions and host messages.

The Terminal Supervisor 3 (TS3) is also available for this purpose. Here, the connection can be established via DSL or LAN as remote operation to reduce costs. When using the TS3 on site, it can be connected directly to the terminal (LAN or USB).

Further information about the Terminal Supervisor 3 is available in the corresponding manuals.

4.7.5. Maintenance system

Apart from updating the terminal automatically, the TKS allows for automatic processing of different jobs (= scripts from several, consecutive actions). This could be a configuration change (e.g. changing telephone numbers) or to load and enable new cards (e.g. new customer cards).

Contact your network operator to ask whether he has an own TKS. Of course, we are happy to provide this service for you.

4.7.6. Terminal Security State

The 4 digit hexa-decimal TSS is displayed via the TS3 in the display of the CCV InSync during booting. The first two digits of the terminal security state identify the concerned component; the last two digits represent the state of this component.

For a terminal ready to operate, the TSS displays 0X0000. This figure lists the individual components and their states. The table below lists the states and the actions the technician needs to carry out.

Terminal Security State	Action
0x0000 → Terminal ready to operate	No action required
0x0111 → Frauds present in terminal	Terminal must be replaced
0x0112 → No key present in the terminal	Terminal must be replaced
0x0114 → Terminal blocked	Terminal must be replaced

4.8. Extensions

The advanced hardware platform of the terminal offers several extension opportunities and thus new possibilities of use.

The optional extensions which can be offered include:

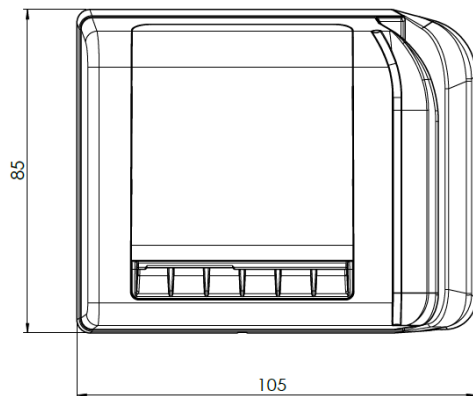
- New payment methods
- Customer cards (magnet strip)
- Customer cards (chip or contactless)
- Bonus card applications
- Contactless applications
- BLE communication

Just contact us so that we can review the implementation of your planned project.

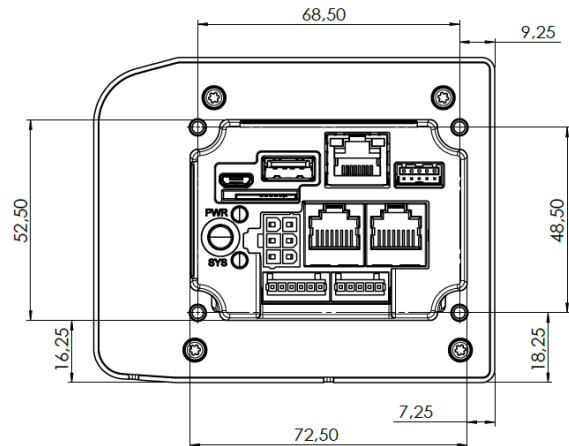
5. Specifications / dimensions

5.1. Figures and dimensions

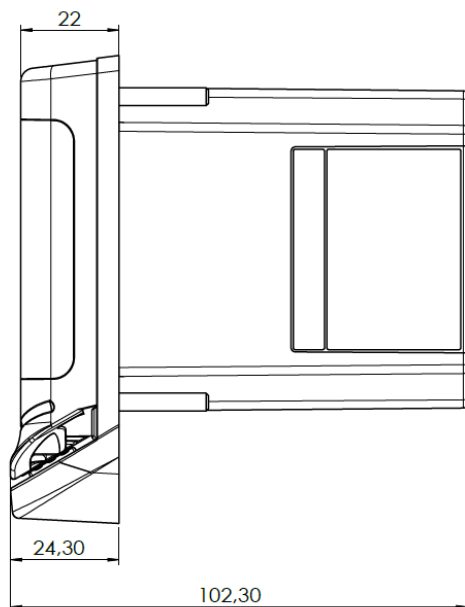
front view



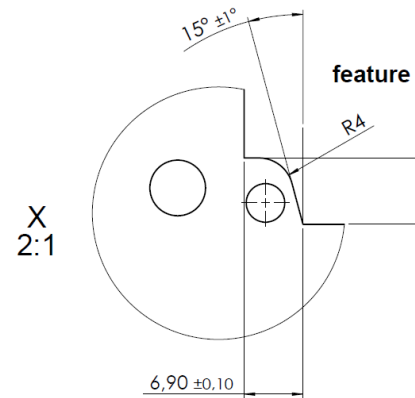
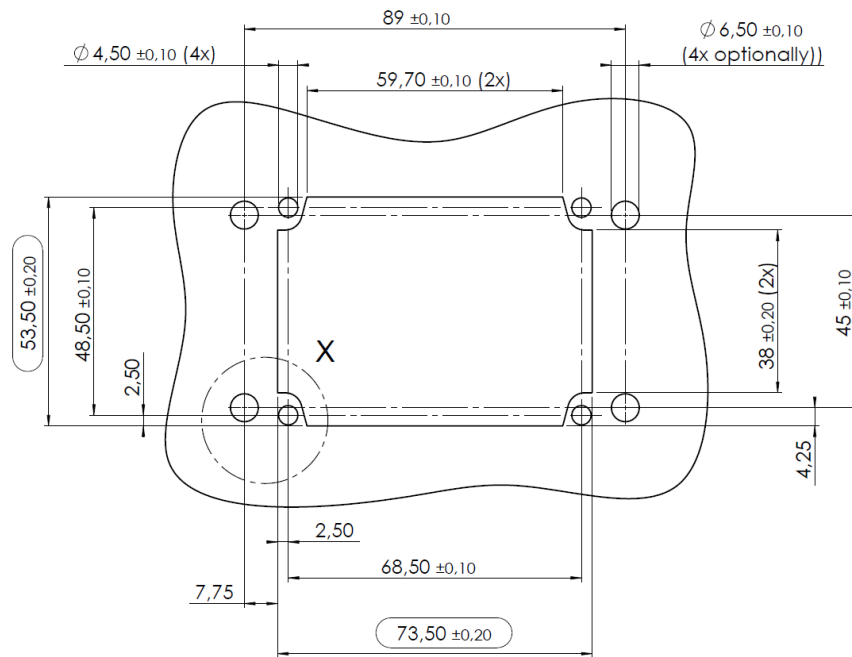
rear view



side view



5.2. Installation space



5.3. Installation information

Complete front tightness (IP-65) can only be reached when the terminal is installed correctly. For this purpose, the terminals must be screwed in on the four fixing point with the specific tightening torque (screw connection to the vending machine front panel):

- **0.8 Nm +/- 0.2 Nm**
- The nuts must be secured with locking varnish.
- The terminals must be earthed via a fixing screw (cross-section of the earth connection min. 2.5 mm²)

5.4. Interfaces

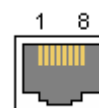
Note

The interfaces listed below do not feature short-circuit strength!

5.4.1. POS (ZVT cash register interface)

RJ45 8-pin, shielded;

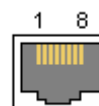
Pin	Signal
1	V _{In} (Power-Input; 7VDC to 45VDC)
2	Signal GND
3	TXD (Out)
4	RXD (In)
5	RTS (In)
6	CTS (Out)
7	MDB_WAKE
8	Power GND



5.4.2. COM

RJ45 8-pin, shielded

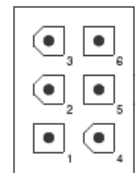
Pin	Signal
1	V _{Out} (switched; 7VDC to 45VDC)
2	RXD (In)
3	TXD (Out)
4	MDB_WAKE
5	CTS (Out)
6	RTS (In)
7	Signal GDN
8	Power GND



5.4.3. MDB

RJ45 8-pin, shielded

Pin	Signal
1	MDB PWR IN
2	MDB PWR GND
3	MDB-WakeUp
4	MDB-Master Receive
5	MDB-Master Transmit
6	MDB-Com Common

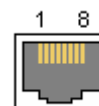


5.4.4. LAN

Voltage supply for the CCV InSync must not be fed via LAN.

RJ45 8-pin, CAT5

Pin	Signal
1	TX+
2	TX-
3	RX+
4	
5	
6	RX-
7	
8	



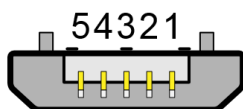
5.4.5. PWR/Executive (voltage supply)

Pin	Signal
1	EXE-Master Rx
2	EXE-Master Rx
3	EXE-Master Tx
4	EXE-Master Tx
5	EXE-PWR Neutral
6	EXE-PWR Live

5.4.6. USB OTG

USB 2.0 OTG (Host/Device) (High Speed 480MBit/s and Full Speed 12MBit/s):

Micro-USB-B; straight connector.



Micro-B

Pin	Name	Colour	Signal
1	VCC	red	+5VDC
2	D-	white	Data -
3	D+	green	Data +
4	ID	none	To differentiate between Micro A and B connectors: - Type A: Earth (OTG works as host) - Type B: not connected (OTG device works as periphery)
5	GND	black	Earth

To switch the OTG mode of the CCV InSync to host, a specific OTG cable is required.

Use OTG port as device:

- OTG port without cable
- Device cable, not connected to PC
- Device cable, connected to PC

Use OTG port as host:

- OTG cable without host device
- OTG cable with USB stick
- OTG cable with self-powered USB hub

5.4.7. USB host

USB 2.0 Host (Full Speed 12Mbit/s):

USB-A; straight connector (e.g. for connection of a 2/3/4G modem or USB memory sticks)

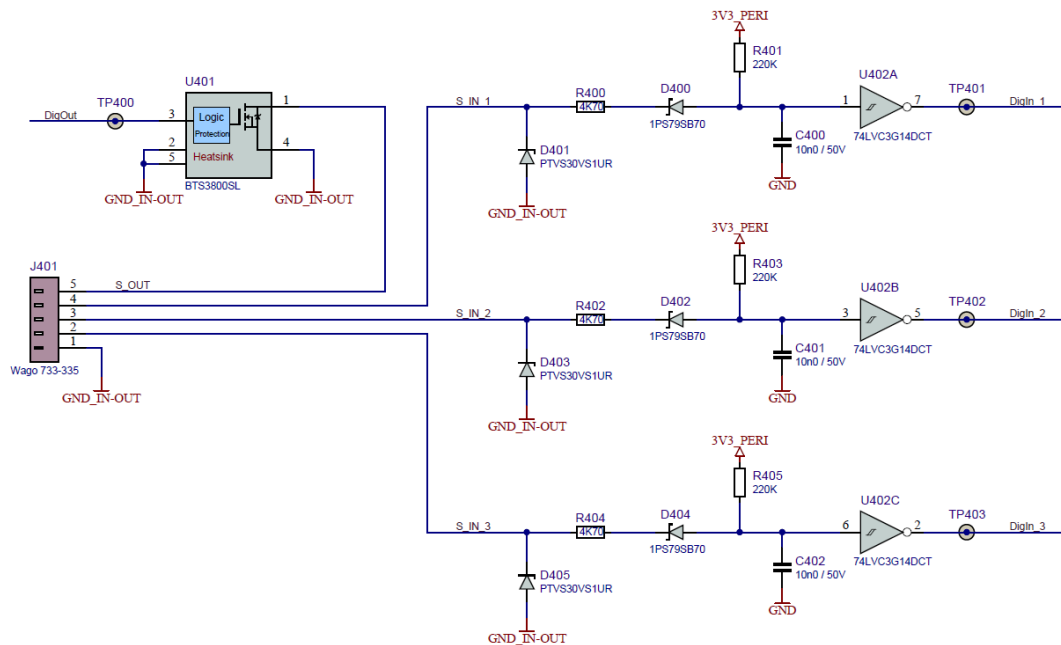
Pin	Name	Signal
1	VCC	+5VDC
2	D-	Data -
3	D+	Data +
4	ID	Earth

5.4.8. Digital I/O

Digital I/O provides additional inputs/outputs.

Pin	Signal
1	GND In-Out
2	DigIn 3
3	DigIn 2
4	DigIn 1
5	DigOut

5.4.9. Internal circuit diagram and information on Digital I/O



A component „HITFET-BTS3800SL“ was used for the digital I/O ports. Please take the according information from the datasheet below.



HITFET - BTS3800SL Smart low side power switch

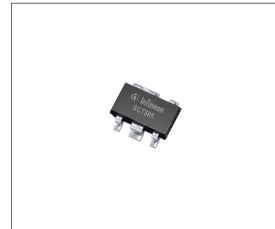
BTS3800SL



1 Overview

Features

- Short circuit and over load protection
- Thermal shutdown with latch behavior
- ESD protection
- Over voltage protection
- Logic level input suitable for 5V and 3.3V
- Small footprint automotive power package
- Green Product (RoHS compliant)
- AEC Qualified



PG-SCT595

Description

The BTS3800SL is a single channel Low Side power switch with embedded protective functions in PG-SCT595 package. The device is monolithically integrated with a N channel power MOSFET and additional protection functions.

The BTS3800SL is especially designed as a protected relay driver in automotive and industrial applications.

Table 1 Product Summary

Drain voltage ¹⁾	V_{DS}	41 V
Maximum Input Voltage	V_{IN}	5.5 V
Maximum On resistance at 150°C and 5V input voltage	$R_{DS(ON)}$	1.6 Ω
Typical On-State resistance at 25°C and 5V input voltage	$R_{DS(ON)}$	0.8 Ω
Nominal load current	$I_{D(nom)}$	350 mA
Minimum Current threshold level	$I_{D(OVL)}$	0.75 A
Single Clamping Energy	E_{AS}	65 mJ

1) Active clamped

Type	Package	Marking
BTS3800SL	PG-SCT595	38

Datasheet

3

Rev. 1.1, 2011-04-30

5.4.10. Service

The interface can be used for service functions.

5.4.11. Modem (optional)

A 2/4G modem for the serial port will be optionally available. The settings for mobile standards can be viewed via the TS3 and changed, if required. Please ask your contact about availability of the modems.

Information about APN

The current location is described by the Location Area Identity ($LAI = MCC + MNC + LAC$), where the Mobile Country Code (MCC) corresponds to the national prefix. The national prefix can be used to differentiate between national and international locations.

When international roaming is activated, the national prefix is not evaluated.

5.5. Specifications

Processor	32-bit Cortex-A7 528 MHz Operation system: Embedded Linux
Memory	512 MB RAM 4 GB Flash
Display	2.4" TFT colour display 320 x 240 Pixel
Keypad	3 illuminated proximity sensors
Ambient conditions	Operation: -20°C or up to +70°C Storage: -30°C up to +75°C Humidity 10% - 90% without condensation The electronic is lacquered in critical areas to protect against condensation.
Interfaces	<p>Hardware interfaces</p> <p>Two RS-232 interfaces:</p> <ul style="list-style-type: none"> • POS: Connection to the vending machine or the cash register, alternatively modem • COM <p>MDB: Cash register interface with Multi Drop Bus Executive: Cash register interface with Protocol A LAN interface: Ethernet, 10Base-T and 100Base-T (auto detect and manual selection) communication protocol TCP/IP (more available on request) e.g. for host or service PC.</p> <p>Two USB interfaces:</p> <ul style="list-style-type: none"> • USB host: USB-A • USB OTG: USB-Micro-B <p>Protocols:</p> <ul style="list-style-type: none"> • Interface protocols • ZVT cash register protocol • O.P.I. • protocol for terminal supervisor and TKS/TMS • MDB –Multi Drop Bus • Executive (Protocol A) • TCP/IP • Host protocols • Poseidon • CCV Pay <p>Further protocols on request.</p>
Internal reader for store cards	Basic equipment = 1 SAM, format ID-000, T=0 and T=1, 3V and 5V cards, synchronous and asynchronous cards, 107 kBaud at 10 MHz, compatible to ISO 7816
Voltage supply	Terminal: 9-45 V (protection against voltage reversal) Power consumption: ~200mA at 12 V Standby: Power consumption: ~6 mA at 12 V

	Note: The main adapter available for testing purposes (starter kit) is only suitable for testing purposes in the laboratory and must not be used in production.
Buffer battery	Integrated lithium ion battery for buffering SRAM and clock. Service life: up to 8 years when stored at around 25°C and voltage supply in at least 50 % of that time.
Dimensions	Front panel: 84 x 105 x 24.3 mm ± 0.1 mm Interior: 53 x 73 x 78 mm ± 0.1 mm EVA cut-out: 61 x 73 mm ± 0.2 mm
Weight	310g ± 5%

Remarks about the lithium battery

To secure data and the clock function and for the safety circuit, the terminals are equipped with a lithium battery. This battery cannot be replaced without opening the housing. The service life of the battery is approx. 8 years, when the device is supplied with mains voltage in around 50% of this period. The ambient conditions for storage and operation as described in this system manual must be observed for this purpose. Only the manufacturer CCV Deutschland GmbH may replace the battery.

Please observe that lithium batteries must not be discarded with general waste but disposed of properly.

Make sure that lithium batteries are not damaged. Under certain circumstances, they can react strongly with water or air.

Calculation example for the battery life:

Total capacity	1000 mAh
Consumption self-drain (10 years at -40°C ... +30°C):	100 mAh
Consumption storage period: 2 years	262 mAh
Option 1: Consumption operation with 0% external supply: 4 years	524 mAh
Option 2: Consumption operation with 50% external supply: 8 years	524 mAh
Option 3: Consumption operation with 62.5% external supply: 10 years	524 mAh
Minimum reserve	114 mAh

5.6. Cash register protocols

5.6.1. ZVT specification

The specification provided for download on our website www.zvt-kassenschnittstelle.de are used as the basis for an implementation of the ZVT cash register protocol. CCV does not guarantee the completeness of the ZVT specifications.

5.6.2. O.P.I.

As a basis for the implementation of the O.P.I. interface, the specification „PA77S001 – CCV O.P.I. Interface“ is used. We will provide it on request.

5.6.3. Executive (Protocol A)

Executive (Protocol A) is supported in a future version.




5.6.4. MDB

MDB has been implemented based on the specification “MDB / ICP version 4.2”.

6. Failure statistics, characteristic figures

Product	Characteristic figure failure statistics
CCV InSync	500,000h, the CCV InSync has no mechanical operation interface
Chip card reader	500,000 insertion cycles
Magnet strip reader	500,000 insertion cycles

7. EU – Declaration of Conformity

EU-Declaration of Conformity	
 marking	
We, Manufacturer/Representative (full address)	
CCV Deutschland GmbH Gewerbering 1 84072 Au i.d. Hallertau	
declare that the product (description of the apparatus, system, installation to which it refers)	
POS-Terminal CCV InSync Brand: CCV	
The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:	
Directive 2014/53/EU Standards to which conformity is declared:	
EN55024:2010	Information technology equipment Immunity characteristics - Limits and methods of measurement
EN55032:2012	Electromagnetic compatibility of multimedia equipment - Emission requirements
EN61000-3-2:2014	Electromagnetic compatibility (EMC) - Part 3-2: Limits - Limits for harmonic current emissions (equipment input current up to and including 16A per phase)
EN61000-3-3:2013	Electromagnetic compatibility (EMC) - Part 3-3: Limits - Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current up to 16A per phase and not subject to conditional connection
EN301489-3:V1.6.1	Electromagnetic compatibility and Radio spectrum Matters (ERM); EMC standard for radio equipment and services; Part 3: Specific conditions for Short-Range Devices (SRD) operating on frequencies between 9 kHz and 248 GHz
EN300330:V2.1.1	Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz
EN62479:2010	Assessment of the compliance of low power electronic and electrical equipment with the basic restrictions related to human exposure to electromagnetic fields (10 MHz to 300 GHz)
EN62368-1:2014	Audio/video, information and communication technology equipment Part 1: Safety requirements
Signed for and on behalf of:	
Hardware: <u>CCV InSync Ver. 07.00</u>	Signature: <u>M. Fischer</u>
Software: <u>CCVD. v007.00-07</u>	Name: <u>M. Fischer</u>
Place: <u>Au i.d. Hallertau</u>	Function: <u>Teamleiter HW-Development</u>
Date: <u>27.02.2018</u>	
The declaration of conformity is issued under the sole responsibility of the manufacturer. The declaration of conformity must be translated in the EU-languages where the product will be sold.	
 TESTED IN GERMANY	Date: 21.02.2018 Ref.-No.: 18/01-0019 Based on Test reports, Ref.-No.: 17/05-0008, 18/01-0019 ACCREDITATION/DESIGNATION: - DAKKS D-PL-17379-01-00
	PKM electronic GmbH  Authorized Signature

8. EMC certificates

Date: December 15, 2017



Uwe Liegl
CCV Deutschland GmbH
Gewerbering 1
Au in der Hallertau 84072
GERMANY

Re: *EMVCo Letter of Approval – Contactless Terminal Level 1*

Approval Number: 15914 1217 260 26b 26b ULVS
PCD Identification: InSync-PCD *Version:* 01.00
Hardware: InSync-PCD-HW *Version:* 01.00
Software: InSync-PCD-SW *Version:* CCVD. v0001.00.01
As tested in: CCV InSync Version 01.00
PCD/Terminal Configuration: Samples are Fully Integrated Terminals (FIT)
Analog Test Cases: 2.6b *Digital Test Cases:* 2.6b
Renewal Date: November 23, 2021

Dear Uwe Liegl,

EMVCo, LLC ("EMVCo"), a Delaware limited liability company, has received your request for Level 1 terminal type approval for the proximity coupling device identified above. In connection with your request, we have reviewed your report, identified by file number UL\SCT1\IEL-M-RP12018057JD08A Version 1.0 which was generated by UL VS Ltd.

After assessing such file, EMVCo has found reasonable evidence that the submitted samples of the above referenced proximity coupling device sufficiently conform to Book D - EMV Contactless Communication Protocol Specification, Version 2.6 of March 2016.

EMVCo hereby (a) grants your proximity coupling device EMVCo Type Approval for Terminal Level 1, based on the requirements stated in the EMV 2.6 Specifications, and (b) agrees to include your proximity coupling device in EMVCo's approved proximity coupling device list.

EMVCo's grant to your proximity coupling device is subject to and specifically incorporates (i) the General Terms and Conditions to the Letter of Approval enclosed as Exhibit A, and (ii) the Specific Terms and Conditions to the Letter of Approval attached hereto as Attachment 1. Because EMVCo's grant is subject to such limitations, including certain events of termination, you and any third parties should confirm that such approval is current and has not been terminated by referring to the list of approved proximity coupling devices published on the EMVCo website (www.emvco.com).

Analog performance being evaluated using Contactless Symbol as reference for the center of the operational volume this LoA is contingent on the EMVCo Contactless Symbol being present and in the "correct" location.

The "correct" location being the Center of the operating volume as identified by the vendor for EMVCo Type Approval unless especially agreed by EMVCo.

This Letter of Approval is valid while the approval number is posted on the EMVCo website.

EMVCo, LLC, a Delaware limited liability company

By: **Frederic Fortin**
2017.12.15 10:20:47 +01'00'

Name: Frédéric Fortin

Title: EMVCo Terminal Type Approval Chair

EMVCo, LLC, c/o Smart Consulting - 16 place Emile Zola - 13600 LA CIOTAT - FRANCE

V260514 / 15914 1217 260 26b 26b ULVS

Page 1 of 2

15 December 2017

Date: December 1, 2017



Uwe Liegl
CCV Deutschland GmbH
Gewerbering 1
Au in der Hallertau 84072
GERMANY

Re: *EMVCo Letter of Approval – Contact Terminal Level 1*

<i>Approval Number:</i>	15794 1217 430 43a 43a CETI	
<i>IFM Identification:</i>	IFM_TDA8035	Version: v0001.00.00
<i>Hardware:</i>	IFM_TDA8035_HW	Version: v01.00
<i>Software:</i>	IFM_TDA8035_SW	Version: CCVD.v0001.00.00
<i>As tested in:</i>	CCV InSync	
<i>Renewal Date:</i>	September 19, 2021	

Dear Uwe Liegl,

EMVCo, LLC ("EMVCo"), a Delaware limited liability company, has received your request for Level 1 terminal type approval for the interface module identified above. In connection with your request, we have reviewed your report, identified by file number 1EL-M_1-4708-01-02-17_CETI which was generated by CTC advanced GmbH.

After assessing such file, EMVCo has found reasonable evidence that the submitted samples of the above referenced interface module sufficiently conform to EMV Integrated Circuit Card, Specifications for Payment Systems, Version 4.3, November 2011.

EMVCo hereby grants your interface module EMVCo Type Approval for Terminal Level 1, based on the requirements stated in the EMV 4.3 Specifications. Please note that EMVCo may publicly identify your interface module as an approved interface module, including in EMVCo's published list of approved interface modules.

EMVCo's grant to your interface module is subject to and specifically incorporates (i) the General Terms and Conditions to the Letter of Approval enclosed as Exhibit A, and (ii) the Specific Terms and Conditions to the Letter of Approval attached hereto as Attachment 1. Because EMVCo's grant is subject to such limitations, including certain events of termination, you and any third parties should confirm that such approval is current and has not been terminated by referring to the list of approved interface modules published on the EMVCo website (www.emvco.com).

Please note that EMVCo makes certain logos available for use in connection with an interface module that has received EMVCo approval. To obtain permission to use the "EMV Approved" certification mark, please contact EMVCo to request a license agreement.

This Letter of Approval is valid while the approval number is posted on the EMVCo website.

EMVCo, LLC, a Delaware limited liability company

By: Frederic Fortin

2017.12.04 12:18:29 +01'00'

Name: Frédéric Fortin

Title: EMVCo Terminal Type Approval Chair

EMVCo, LLC, c/o Smart Consulting - 16 place Emile Zola - 13600 LA CIOTAT - FRANCE

V260514 / 15794 1217 430 43a 43a CETI

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1 December 2017



Terminal Quality Management Statement of Compliance

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This is to confirm that Mastercard Approval Authority
has approved the following Terminal Components submitted by

CCV Deutschland GmbH
Gewerbering 1
Au in der Hallertau
Germany

in conformity with Terminal Quality Management requirements.

Type	EMVCo Level 1 LoA	Mastercard TQM Label	IFM or PCD Identification	Manufacturing Site(s) (p.2)	As tested in, As manufactured as
IFM	15794 1217 430 43n 43n CETI	TQM0979J01	IFM_TDA8035 Version 0001.00.00	1	CCV InSync CCV InSync
PCD	15914 1217 260 26b 26b ULVS	TQM0979J02	InSync-PCD Version 01.00	1	CCV InSync CCV InSync

For
Mastercard Enterprise Security Solutions
Global Product & Solutions
EMV & Digital Devices.

This Letter is valid until September 30, 2019

**Bruno
PARFUM**

Bruno PARFUM
Product Approvals Director

Digitally signed by Bruno Parfum
DN: cn=Bruno Parfum, o=Mastercard,
c=US, email=bruno.parfum@mastercard.com,
serial=15914 1217 260 26b 26b
ULVS

DocId: 36714207-0040