

Product description

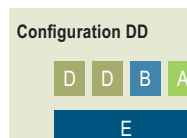
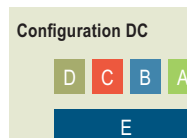
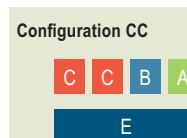
Expert 900

The top-of-the-range ticket vending machine from ACS



The Expert 900 is ACS's top-of-the-range ticket vending machine both in terms of capacity and functionality. Available in three versions, it offers different combinations of modules for optimal dispensing of tickets (see illustration right). Added to this, the Expert 900 supports all types of smartcards, electronic ticketing, magnetic and paper tickets.

Every Expert 900 model can handle very high volumes of revenue and is ideal for universal use in transport systems with medium to large passenger throughput. The Expert 900 and its touchscreen are designed to enable access to controls from wheelchair height. Like all ACS ticket vending machines, the Expert 900 comes with a standard interface to the Arcos management system. Its open system architecture and high-level standardisation ensure maximum availability and reliability, coupled with low maintenance and repair costs.



A Payment segment 1:

Banknote reader (standard or high-end version) and cashless payment (EFT-POS)

B Payment segment 2:

Coin handling system (standard or high-end version)

C Output segment 1:

Printer (standard or high-end version)

D Output segment 2:

Up to two card handling modules for issuing or recycling smartcards

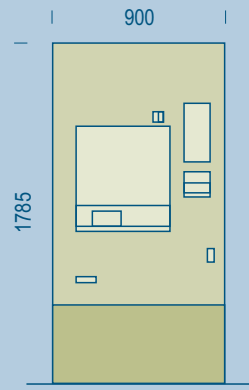
E Infrastructure segment:

PC including operating software and power supply. Options: alarm, temperature module, communication module

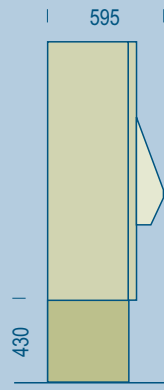
Thanks to the consistent modular design of ACS ticket vending machines, they can be easily upgraded, extended and adapted to meet individual operators' requirements.



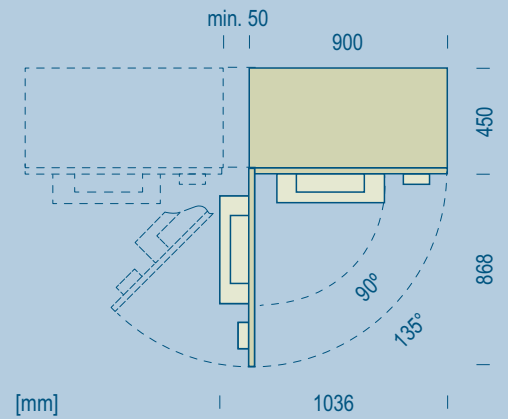
Front view



Side view



Top view



■ Standard ■ Optional

	CC	DC	DD
Application Software	■	■	■
AFC (Automated Fare Collection) component-based software architecture for modular, flexible applications tailored to specific operators' needs:			
■ Supports tariff systems based on distance, zones and cell-zones (honeycombs)	■	■	■
■ Tariff data stored locally in the Export 900	■	■	■
■ Tariff data accessible in real time from remote servers	■	■	■
■ Link to Arcos management system with Web service	■	■	■
■ Supplementary services such as passenger information and electronic ticketing with link to backend system or call centre	■	■	■
Operating Software	■	■	■
The AFC component framework enables applications to be customised to operator requirements			
■ Windows XP Embedded operating system	■	■	■
■ CORBA (Omni ORB) middleware serving as communication medium between components	■	■	■
■ Microsoft Access database	■	■	■
Passenger Interface	■	■	■
Large-format display for modern convenience and ease of operation, with additional acoustic support:			
■ Display-touch module with high-resolution 15" TFT colour display and integrated infrared touch frame	■	■	■
■ Display module with high-resolution 15" TFT colour display and softkeys	■	■	■
■ Loudspeaker	■	■	■
■ Intercom with link to call centre	■	■	■
Coin Handling System	■	■	■
Coin handling systems for low- or high-end requirements:			
■ Simple coin handling system with no LIFO capability but extendable change capacity	■	■	■
■ High-end coin handling system with LIFO capability, can be fitted with additional coin hoppers for frequently used coins	■	■	■
Banknote Reader	■	■	■
Optional banknote readers for low- or high-end requirements:			
■ Simple system that accepts one (1) banknote per sale	■	■	■
■ High-end system that accepts up to 15 banknotes per sale (escrow)	■	■	■

	CC	DC	DD
<p>■ Standard ■ Optional</p>			
Cashless Payment	■	■	■
Optional EFT-POS terminal for a full range of cashless payment options:			
■ Can be adapted to meet country-specific requirements	■	■	■
■ Supports credit cards, debit cards and electronic purses (e.g. GeldKarte, CASH)	■	■	■
■ Integrated module comprising hybrid reader (magnetic strip/chip) and PIN pad	■	■	■
■ Clearing via LAN / Ethernet interface	■	■	■
Communication Module	■	■	■
Communication module for connection to Arcos management system via:			
■ Ethernet (TCP/IP)	■	■	■
■ GPRS / EDGE / UMTS	■	■	■
■ ISDN	■	■	■
■ Wireless LAN	■	■	■
Electronic Ticketing	■	■	■
Electronic ticketing module with optimal customer-specific functionality:			
■ Supports all ISO 14443 A/B cards	■	■	■
■ Dispenses disposable electronic paper tickets	■	■	■
■ Dispenses contactless smartcards		■	■
■ Can be integrated in a contactless access point in the door of the Expert 900	■	■	■
■ Can be equipped with up to 4 SAMs (Secure Access Modules)	■	■	■
Card Handling		■	■
Configurable card handling module for issuing contactless tickets from dispenser, loading cards (add value) or recycling cards; available in different configurations:			
■ Up to 2 dispensers		■	■
■ Up to 4 dispensers			■
■ 1 dispenser and 1 recycler or 1 add value module		■	■
■ 3 dispensers and 1 recycler or 1 add value module			■
Printer	■	■	
Graphics-enabled thermal printing systems (direct thermal technology) for low- or high-end requirements:			
■ Paper widths from 54.0 mm, 76.2 mm and 82.55 mm	■	■	
■ For 1–3 paper rolls	■	■	
■ For 4–6 paper rolls (requires 2 thermal printing systems)	■		
■ Paper option: pure thermal paper	■	■	
■ Paper options: thermal paper with magnetic strip (LoCo or HiCo) or thermal paper with contactless chip	■	■	
■ Dispenses disposable contactless tickets	■	■	
■ Barcode-based paper monitoring/management	■	■	
Hardware	■	■	■
The PC allows control of all modules used in public transport services:			
■ 600 MHz (optional 1 GHz) PC	■	■	■
■ 256 MB RAM (optional up to 1GB)	■	■	■
■ Hard disk at least 10 GB	■	■	■
■ 128 MB Compact Flash, suitable as portable medium or backup medium for sensitive data	■	■	■
■ Interfaces: 1 x parallel; 6 x RS232; 2 x USB (1.1 or 2.0); 1 x Ethernet (10 BaseT / 100 BaseTx)	■	■	■
■ 8 digital inputs / 4 digital outputs for power loop and 4 switchable 24V outputs	■	■	■



	CC	DC	DD
<p>■ Standard ■ Optional</p> <p>Operation</p> <p>Power supply and infrastructure (based on the Power Bus concept):</p> <ul style="list-style-type: none"> ■ AC/DC converter for an input voltage range of 93–264 VAC/47-63Hz and an output voltage of 24 VAC/240W ■ Uninterruptible power supply (USP) for industrial area ■ Terminal protection via integrated FI circuit breaker (300mA) ■ Temperature module (required for operating temperatures below –5°C) ■ Country-specific service socket with/without personal protection FI-switch (30mA) 	■	■	■
Housing	■	■	■
The housing can be adapted to operator requirements:			
■ Galvanised or stainless steel sheet	■	■	■
■ Flexible locking system (uniform, group or single locking)	■	■	■
■ Choice of colour based on NCS, Pantone or RAL colour code	■	■	■
■ Covers for optional modules (facilitates subsequent retrofitting)	■	■	■
Assembly	■	■	■
Pedestals in various heights for optimal integration in the installed environment:			
■ Standard heights of 230 mm, 330 mm and 430 mm	■	■	■
Ambient Conditions	■	■	■
The Expert 900 is designed for the following ambient conditions:			
■ Temperature: –5°C to +50°C (–25°C to +50°C if a temperature module is used)	■	■	■
■ Humidity: 24% to 98% without condensation	■	■	■
Standards	■	■	■
The Expert 900 complies with the following standards:			
■ CE	■	■	■
■ EMC (emissions): EN 50081-1 / IEC 61000-6-3; EN55022 (Class B)	■	■	■
■ EMV (immunity): EN 50082-2 / IEC 61000-6-2; EN 55024 (1997); EN 50121 (VDE 0115)	■	■	■
■ Safety: EN 60950 / IEC 60950	■	■	■
■ Safety (for USA and Canada): UL 751	■	■	■
■ Climate: EC 60068-2-14 Nb; IEC 60068-2-30 Db; EN 50155; EN 721-3-3 (Classes IE31-IE37)	■	■	■
■ Vibration resistance: IEC 60068-2-6 Fc (nach DIN 24975); IEC 68-2-29 Eb	■	■	■
■ Protection: EN 60529 / IP33 (entire terminal); EN 60529 / IP34 (coin slot); EN 60529 / IP33 (banknote slot); EN 60529 / IP65 (touchscreen/display); EN 60529 / IP34 (card reader slot); EN 60529 / IP33 (output tray)	if fitted	if fitted	if fitted
■ Suitability for disabled persons: country-specific	■	■	■

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