

# PALAS

---

## Product Guide

R22a



Palas – A tree also known as Flame of the Forest, *Butea monosperma*, Dhak, Palash (Bengali), Porasum (Tamil), Khakda (Gujarati). Palas, a Sanskrit word, is mentioned in many ancient Indian poems & texts. The Rig Veda (Mandala 4) says that the first Palash tree arose from the fallen wing of a falcon (shyena) carrying Som juice from heaven

**Palas is very hardy and robust**, often blossoming in areas where nothing else is able to survive.

The Palas flower heralds the beginning of summer. A grove of Palas trees in full bloom sets the horizon ablaze with bright orange flowers. The flower is full of nectar; many species of birds like sunbirds, mynahs & babblers are frequent visitors to Palas.

Palas offers multiple benefits. The powdered flower is used as “gulal” for Holi; the flowers produce a dye which Buddhist monks use to dye their robes; the tree is a host tree for the lac insect which gives us shellac/lac with numerous uses including polishing, finishing furniture and as confectioner’s glaze.

Palas is headquartered in New Delhi, India. Main manufacturing facilities are in New Delhi, with sales & service offices in Bangalore, Chennai, & Mumbai.

Palas has been the Master Distributor in South Asia for products from some of the most reputed companies in the world, like 3M Touch systems, USA; Axiohm, France; Sankyo, Japan

Palas manufactures in India:

- Touch screen monitors, All-in-ones, Industrial Touch Panel PCs.
- Smart Card Readers for ATM's, kiosks and POS systems.
- Self-ordering, Smart Vending Machines
- Interactive Digital Signage Systems for Malls, Factories, Buildings.
- Smart City Information & Transaction kiosks.

### Milestones

**1985:** Started operations as a manufacturer of packaging - Plastics, injection & blow moulding, duplex cartons, tin cans.

**1992-99:** Process Control & automation division, offering turnkey automation solutions integrating diverse platforms such as Honeywell, Allen-Bradley and Siemens with application software developed by Palas. Clients included leading companies in pharma, food, power, & steel industries.

**1997:** Palas began working with touch screens to provide a simplified interface for our clients' increasingly complex industrial control machinery. Introducing a relatively unheard of technology in India, Palas actively partnered with customers to release a number of groundbreaking touch screen applications.

**2006:** Demand from Palas's touch screen OEM customers led Palas to add thermal printers and smart card readers to its range.

**2011:** Became the first Indian manufacturer of dip-type smart card readers to read magnetic swipe & IC chip cards for use in ATMs & Kiosks.

**2012:** Manufacture of MultiTouch Industrial PC's. Specialised touch software solutions developed, for digital signage, process automation and quality control.

**2014:** Started manufacture of Touchscreen tables & kiosks.

**2016:** Developed touch based hardware/software solutions for paperless factories, including shop-floor data entry.

**2017:** Added ISO14001 certification to the existing ISO9001.  
Manufactured solar powered sunlight readable kiosks for outdoor use.  
Manufactured Transaction kiosks for Smart City projects.  
Developed IoT kiosks with environment sensors.  
Replaced factory diesel gensets with Solar for partial power back-up.

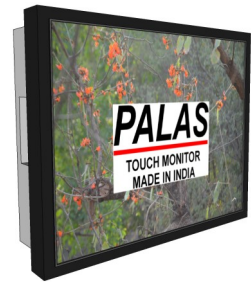
**2018:** Self Service systems for vending, food ordering in restaurants.

**2019:** Developed Electric Vehicle Charging Stations.

**2020:** Developed software for contactless attendance, visitor registration.  
Manufactured self-service kiosks for hospitals, restaurants, factories

**2022:** Automatic Biryani Vending Machine made by Palas, launched in Chennai

Palas has always been professionally owned and managed—the founder, majority shareholder and Managing Director is a graduate of IIT Delhi and IIM Calcutta.



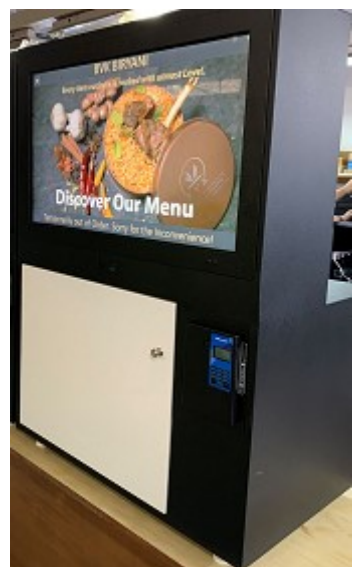
Touch Screen Monitors



Touch Panel PCs



POS Systems



Touch Screens

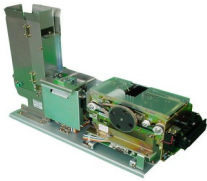


Thermal Kiosk Printers



Smart Card Readers

## DISTRIBUTION



### Sankyo Smart Card Readers, Writers & Issuers

Wide range for use in POS terminals, kiosks, payment systems, security terminal and other ID terminals. Made in Japan, Sankyo smart card readers have a dominant share of the ATM market in India. Motorized, Dip-type, Swipe type, contactless readers, writers and issuers, for Track 1,2,3, IC chip, NFC, anti-skimming readers.

## MANUFACTURING

**Made in India**



### PALAS Touch Screen Monitors

Rugged high quality touch displays. In sizes from 8.4" to 86". Fastest touch response time (5 to 12ms). High accuracy (Within 1% of true position). Anti-glare, easy-glide surface coating. Metal frame for high durability.

Panel Monitors in sizes from 8.4" to 86", for use in harsh environments. Rugged design. Easy mounting. Used extensively on factory floors for data acquisition, in machine tools, printing machines. Optional IP65 compliant, temperature rating 0 to 60°C.



### PALAS Touch Screen Panel PCs

Touch screen monitors with embedded processors. Available with a variety of processors with Win 10, 11, Linux, Android. Used in interactive digital signage systems, process control, kiosks. Space saving design. Sizes from 10.4" to 86". Optional IP65 compliant, temperature rating 0 to 60°C.



### Sankyo Card Readers

Magnetic Track 1/2/3 & IC Chip card readers made in India using Sankyo components.



### PALAS POS Billing Terminals

Touch screen billing machines with printers, card readers. Compact design. Rugged all metal construction. Toughened touch screen. Operation unaffected by liquids, dust, dirt and grime. Tested successfully with most POS software.



### PALAS Thermal Receipt Printers

Specially for kiosk use. Uses heavy duty mechanisms and controller boards. Easy to integrate into kiosks or POS systems. Simple reloading of paper. Compact size.



### PALAS Touch Screen Table

Multitouch table. 10 to 80 finger simultaneous touch. Flat glass top, no bezel. Ideal for restaurants, gaming, and as a discussion table in offices and showrooms. Win 10, 11, Android. Top and side surfaces waterproof, shatter resistant. Sizes from 15" to 86".



### PALAS Smart Kiosk

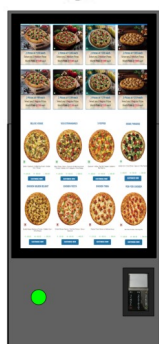
Smart City Kiosks with robust touchscreen monitor, cash acceptor, card reader, 2D barcode scanner, printer, CCTV camera. Display sizes from 17" to 86"

Optional: temperature rating 0 to 60°C, IP65 compliance for outdoor use, sunlight readable, solar powered.

### PALAS Self Service Systems

Within hours of receiving them, Palas Self Ordering Systems start taking customer orders. Includes Touch display, scanner. Pay by Credit/Debit Card or PayTm, payment software included.

Sleek -80mm depth. Ideal for restaurants, vending, retail.



## Palas products are used in many diverse applications



**Banks** - ATMs, Account information at Allahabad Bank, Andhra Bank, Bank of Maharashtra, Bank of Punjab, Citibank, HDFC, ICICI, State Bank.

**Point Of Sale (POS)** - GKB Opticals, FBar, Defence Bakery, Hard Rock Café, DLF, Cinemax, Sathyam Cinemas, Mantri Mall, Royal China, Lemon Tree Hotel, Delhi Club House, Goa Casinos

**Transport** - Information and check-in at airports. Crew information system at Indigo

**Indian Railways** - PNR enquiry, seat availability, train Schedules, automatic ticket vending machines. Crew management systems

**Bill payment** - MTNL Delhi, BSNL Chennai, BSES, Bangalore Jal Board, Torrent

**Hospitals** - Medical grade systems for OTs. Health care information at Escorts, Wockhardt, Vijaya, Max, Fortis, Ganga Ram, Medanta

**Information and Tourism** - National Science Museums, Victoria Memorial Museum, Multimedia Sikh Museum, Metro Rail Museum, UP Tourism, Himachal Tourism, Parliament House, etc.

**Mandi prices, land records, passport applications** - Mumbai Municipal Corporation, Cotton Board, Bangalore Passport Office, Post Office, Rajiv Gandhi Foundation

**Smart Cities** - Citizen information and transaction services, including payment system by cash, card, e-wallet. Systems for outdoor use. Nagpur Smart City

**Factories** - Process Control, HR, QC, Paperless factories, digital displays at IFFCO, Ford, HSIL, M&M, Samsung, Honda, Tata Motors, etc.

**Pharmaceutical** - Ultra slim IP65 all-in-ones for clean rooms. Cipla, Sun

**Retail** - Product catalogue, Mall / Store directory, Information - Reliance Retail, Wills Lifestyle, Golf Works, Landmark, automobile showrooms

**Vending, Self-Service** - ATVMs at Railway Stations and Cinema halls. Food self-order at QSRs - McDonalds, Khan Chacha, Chaiyos



All Palas Touch Monitors use Capacitive touch screens,

**Made in India**

**Common Features:**

- **High quality:**  
Operation unaffected by liquids, dust, dirt, grease.  
3 Year Warranty  
Sanitize with alcohol spray or wipe
- **Fast:** The worlds fastest touchscreens.
- **Rugged:** Metal Panel Body for hot & harsh environments. Extended warranty packs available
- **Easily available:** All sizes from 6.4" to 21" in square (up to 21") and wide (up to 86") formats.
- **High brightness** - options up to 2000 nits, sunlight readable
- **High Temperature** - Standard up to 50°C; optional up to 70°C
- **Local service:** Ensures high uptime. Available ex-stock in India.
- **Made in India** by Palas
- **Standards:** Conform to IS13252 IEC60950

Uniform bezels enable use in portrait or landscape form



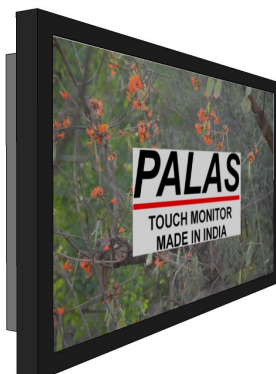
**Model Types** (all models have USB touch interface; Serial (RS232) is optional)

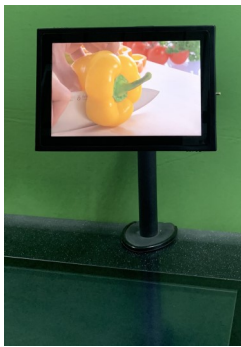
SCT Models	xxx denotes size
xxxPCUM	Standard model (metal bezel)
xxxPCSM	Standard model with Serial touch
xxxPCUMF	Flange model (for panel mount)
xxxPCSMF	Flange model with Serial interface
xxxPCUT	High temperature rating
xxxPCUM-H	High Resolution
xxxPCUM-U	Ultra high resolution
xxxPTUM	Toughened glass (UL 1950)
xxxPTUT	Toughened glass (UL 1950) and high temperature
xxxPCUM-B	High Brightness Standard model (metal bezel)

PCT Models	xxx denotes size
xxxPMUM	Standard model (metal bezel)
xxxPMUM-B	Extra high brightness
xxxPMUM-F	Flange model (for panel mount)
xxxPMUM-U	4K resolution, metal Bezel
xxxPMUM-UB	4K resolution, High Brightness
xxxPMUM-G	Full Front Flat Glass
xxxPMUM-GS	Full Front Flat Glass, Sealed to prevent water ingress
xxxPMUM-G-U	4K Resolution, Full Front Flat Glass
xxxPMUM-G-IP	Full Front Flat Glass, IP64
xxxPMUM-x-SO	Self Service Ordering systems

**Touch Screen Panels with Finishes and Colours**

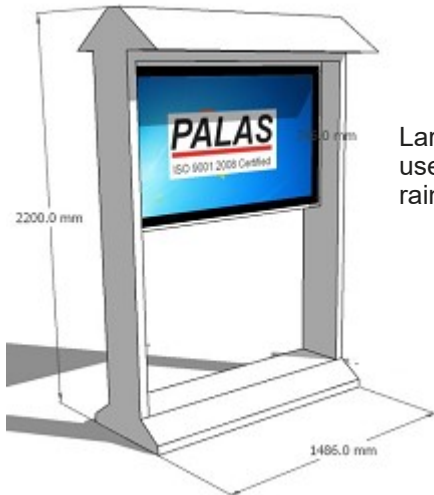
- Multiple colours and finishes available, powder coated steel or SS
- Easily matches your current environment.
- Uses a metal frame for the monitor.
- Dimensions do not change over years making it ideal for OEMs
- Optional strengthened screen for vandal-prone areas.





Rugged, small (10") monitors with choice of Android or Windows. Rated to work 24x7.

Optional battery

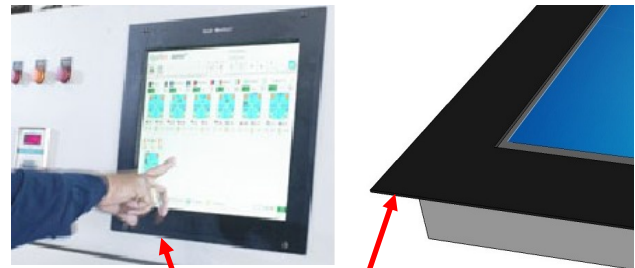


Large 55" Industrial Displays for outdoor use. Sunlight readable, not affected by rain/dust. Windows 10 /11



### Palas Touch Screen Panels with Flange PCxM-F, PMUM-F, BCxM-F, BMxM-F

- Uses a metal frame for the monitor.
- Bezel flange ideal for panel-mount, for fitment into kiosks, machinery, etc.
- Meant for harsh environments (high temperature, dust, etc.)
- Dimensions don't change for years, ideal for OEMs
- Various colour options and finishes.
- Can use the SCT7650EX strengthened screen for vandal-prone areas.
- Optional stainless steel flange



For panel mounting, a flange monitor is ideal

### PALAS - Tough Monitors

Palas PTxx series of toughened touch monitors are unaffected by dropping a steel ball weighing 0.5kg on the touch sensor Or by dropping a cricket ball !

### PALAS - Privacy Touch Monitors



Palas Privacy Touch Monitors allow only those directly in front of the monitor to view on-screen data.

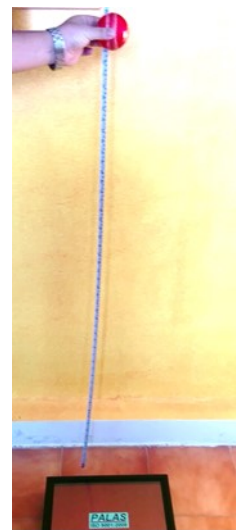
People looking from the side see only a dark, gray screen.

Ideal for Banks, ATMs, Help-desks, BPO's, Hospitals, HR, design, marketing.



Without privacy

With privacy



# Touchscreen Computers IPC, Panel PCs, All-in-ones

## PALAS Touch Computers (BC & BM series)

Palas Touch PCs, based on 3M Capacitive touch technology and electronics, offer fast, accurate and up to 80 finger simultaneous touch.

Unique metal frame PCs for use in harsh environments. Rugged design. Easy mounting through VESA mounts. Smooth, easy-glide surface coating. Anti-reflective.

Model	BC and BM Series
Display Size	26cm (10.4") to 217cm (86")
Front Bezel	Choice of Metal (15mm width), Flange, or full flat front glass
Touch Points	BC Series - Single touch; BM Series - up to 80 touch points in larger displays
Input Method	Finger, thin gloves, or Smart pen.
Touch Screen	Capacitive & Projected Capacitive
Touch response time	less than 10 ms
Accuracy	Within 1% of True Position
Surface Finish	Choice of polished or anti-reflective
Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains
Chemicals	Resistant to corrosives, as per ASTM D1308 & ASTM F-1598
Protection	Standard IP51; optional up to IP 67; Front face protected from sprays of water Optional—sealed against smoke, oil fumes, common gases
Operating System	Standard Win 10E ; Optional : Linux, Android
Processor	Standard Celeron; Optional : quad core, i3, i5 / i7
RAM	Standard 4 GB; optional up to 32GB
Hard Disk	Standard 120 GB SSD ; optional up to 1TB
I/O	2 x USB, 1xLAN ; Optional : WiFi; multiple USB, Serial, dual LAN
Format	Wide 10" to 65" (16:9 or 16:10) ; square from 10.4" to 21" (4:3 or 5:4)
Brightness (cd/m <sup>2</sup> )	Standard 250; optional up to 2000
Resolution	Choice of 800x600; 1024x768; 1280x1024; 1366x768, 1920x1080, 3840x2160
Viewing Angle	H170, V170
Operating Temp	Standard 0 - 50° C ; Optional up to 0 - 70° C;
Relative Humidity	85% non-condensing
Power / Connectors	220VAC
Power (W)	Depends on size, brightness, processor; max < 1kw
Touch PC made in	India
Certification	BIS 13252 / IEC 60950                      BIS Regtn—R81002836

## PALAS Fully Sealed Touch Systems (PMUM-S, BMxM-S series)

- Sealed to up to IP65 standards
- Fully protected from water, oil, dust ingress
- Fanless systems, large heat sinks
- 0 to 60°C



## Mounting options



Panel Mounted



Wall Mounted



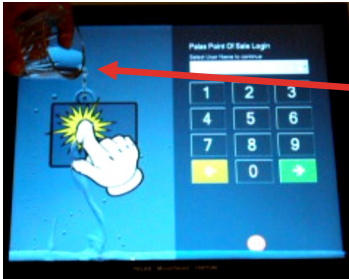
Arm Mounted



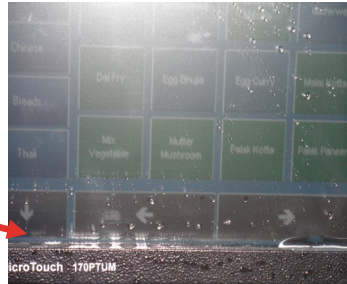
Floor Standing

## PALAS Fully Sealed Touch Monitors & Computers (PMUM-S, BMxM-S series)

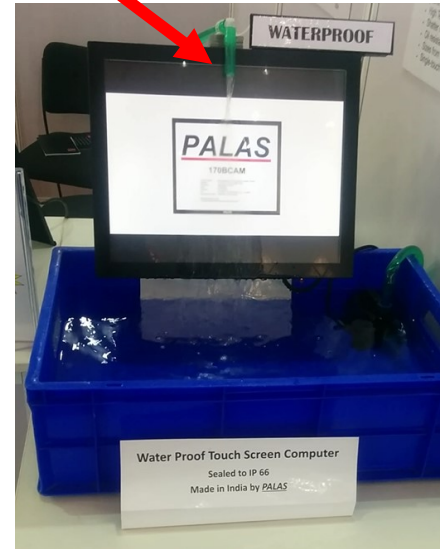
- Sealed to up to IP65 standards
- Fully protected from water, oil and dust ingress
- Fanless systems, large heat sinks
- Ideal for factories with hot dusty environments or wash-down requirements, kitchens with smoke/oil emissions, and many others where regular wash-down is needed
- Optional sealing on all sides



Water / liquid spills do not affect operation



Water being pumped directly onto the front of the touchscreen



## Sunlight readable, water resistant Touch Computers & Kiosks for outdoor use



High Brightness Touch Monitor  
This kiosk is readable in direct sunlight.

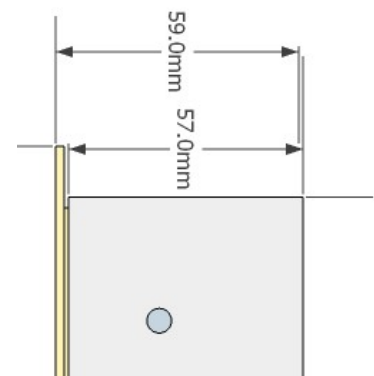
It is not affected by even a strong jet of water on the front

Can withstand rain, winds, dust  
Temperature rating up to 60°C  
Choice of colours available  
Solar Powered options

## Slim Touch Computers for clean room walls

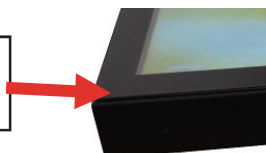


Ideal for 60/75/100mm Panel walls  
Depth only 57mm behind flange.  
Optional—50mm depth  
Front face sealed as per IP65  
Choice of SS304 or Powder coated metal in Black or White



Touch Monitors and Computers without metal bezel

No bezel :full flat front glass



**Made in India**



Palas Touch Computers are designed and made in India, using the best of Indian and imported components. Presently import content is less than 35%, ensuring that all Palas products are ideal for Indian conditions. Local service ensures high uptime. Applications include Process Control, Plant-floor use, Machine tools, Vending, ATMs, POS, Kiosks, and many other demanding areas.

**PALAS ULTRA Touch Monitors & Computers (PMUM-U and BMxM-U series)**

- Stunning 3840 x 2160 resolution on 27" to 65" displays
- up to 80 point simultaneous touch option with palm rejection option,
- Compatible with Windows, Linux, Android, iOS
- Unique metal frame monitors for use in harsh environments.
- Not affected by surface contaminants such as dust, grease, water
- Anti-reflective surface ensures even the faintest image is seen
- Ideal for simulation, air-traffic radars, medical imaging, ultra high definition video, process control, vision systems, product demos



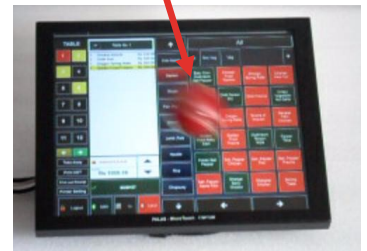
**Point of Sale Systems (POS)**

Easy to use - Just touch the screen and make a bill !

- Small size saves counter space
- Choice of colors
- Can even work from car batteries or a solar panel
- Made in India, easily customized
- Compatible with most touch screen POS software
- Water resistant

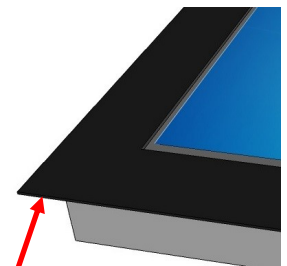
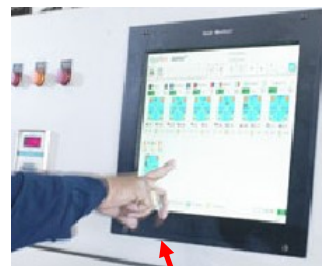


A cricket ball, dropped from a height of 1 mtr, will not break the optional toughened touch screen



**Palas Touch Screen Panels with Flange PCxM-F, PMUM-F, BCxM-F, BMxM-F**

- Uses a metal frame for the monitor.
- Bezel flange ideal for panel-mount, for fitment into kiosks, machinery, etc.
- Meant for harsh environments (high temperature, dust, etc.)
- Dimensions don't change for years, ideal for OEMs
- Various colour options and finishes.
- Can use chemically strengthened screen for vandal-prone areas.
- Optional stainless steel flange



For panel mounting, a flange monitor is ideal



## FINE DINING AND SELF-SERVICE RESTAURANTS

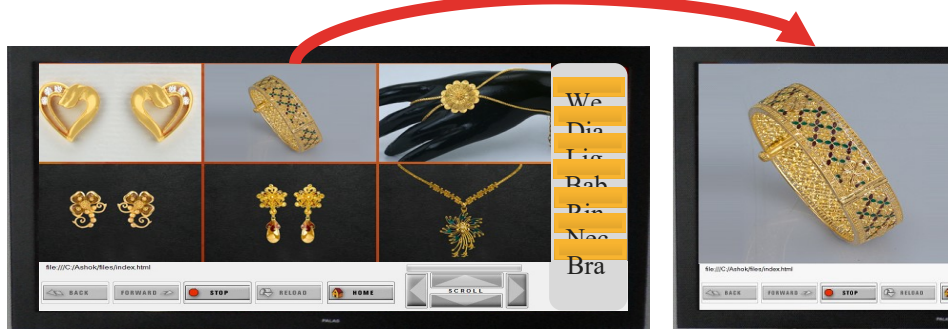
Attractive menus in touch screen podiums, kept outside the restaurant tempt customers to enter. Self-ordering systems encourage customers to try out new offerings by their sheer visual appeal.



Table Mount - Not affected by objects on the screen

## RETAIL STORES

A fun way to showcase the entire product range. To see product details, just zoom in with two fingers. Rotate products to get a 3D view with the unique Multi touch monitors from Palas



Roulette table, Casino, Goa



Bengaluru airport



Catalogue information in retail showrooms



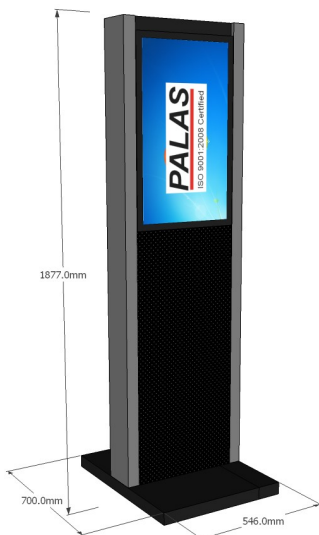
Deliver citizen services online with slick, stylish Palas Touchscreen Systems with 24/7 displays allowing multiple touch points. Many services are already available online, but an interactive kiosk enables those who are not computer literate. An easy way to serve, engage, and educate citizens.

Uses Projected Capacitive touch technology and electronics, offers fast, accurate and simultaneous up to 80-finger touch, depending on size  
Sizes available - 38cm (15") to 165cm (65").

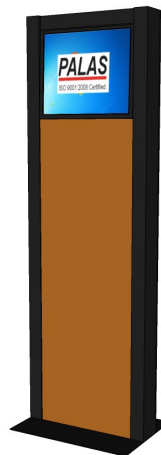
- Unaffected by dust, grease, moisture, paan stains, etc.
- Up to 80 simultaneous touches in some models
- Stunning visuals with the full HD 1920x1080 resolution display or the optional up to 3840x2160 resolution display
- Powerful performance - next generation Intel processors; Up to 16 GB RAM
- Up to 2 TB SSD
- Choice of operating systems (Windows 10, 11, Linux, Android)
- Optional: Cash Acceptor, Credit/Debit Card Reader, 2D scanner, CCTV
- Optional: temperature rating 0 to 60°C, IP6x compliance for outdoor use, sunlight readable, solar powered
- Designed & manufactured in India



Nagpur Smart City Citizen Service kiosk



Mahindra auto showroom



Bengaluru Airport Baggage services





Sporting events - quickly retrieve data & annotate



Mall Information



Educational aid



Rashtrapati Bhavan Museum



Rashtrapati Bhavan Museum



Print and pay by e-wallet



2-wheeler showroom



Touch Table at Airtel showroom



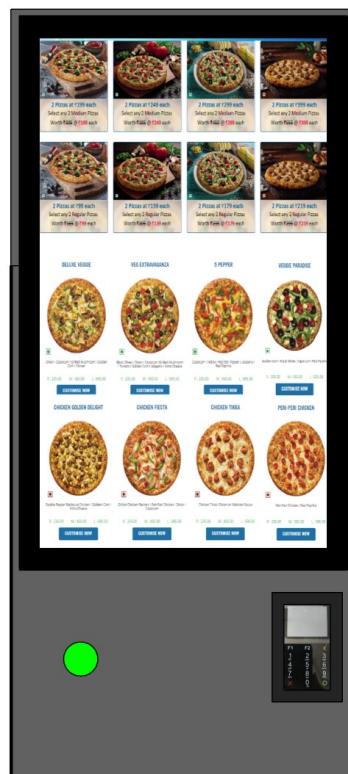
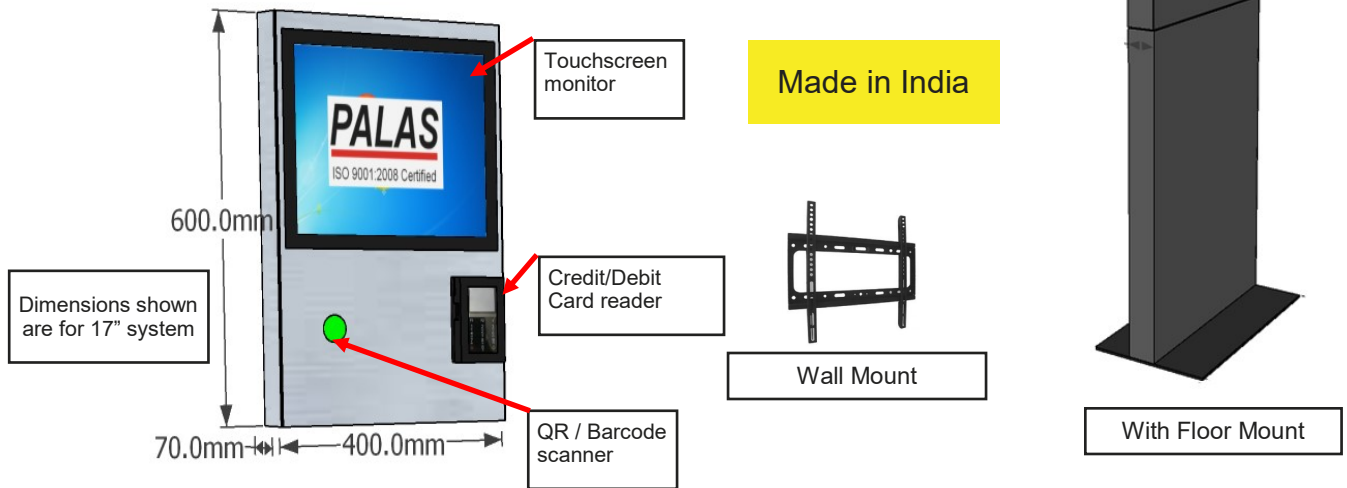
Automatic Train Ticket Vending Machine

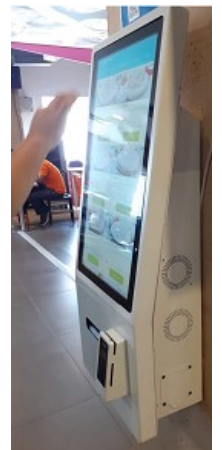
Within hours of receiving them, Palas Self Ordering Systems can start taking customer orders :

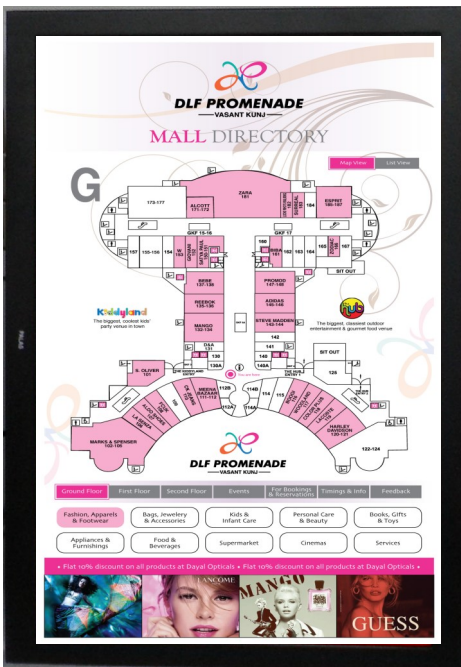
- Easy to use, just touch an item to add to your order
- Entices customers with attractive pictures
- Encourages upselling; typical order values tend to be higher than those placed with a waiter or cashier
- Reduces dependence on trained cashier ; reduces queues

Palas Self Ordering Systems (sleek, space saving design, only 80mm depth) include :

- Capacitive touchscreen monitor; Intel processor; Windows 10, 11
- In-built Credit / Debit Card Reader; Optional QR/Barcode scanner
- Pre-loaded order taking software; or install your own billing / ordering software
- 4 standard sizes, 17", 21.5", 27", 32"
- Choice of wall or floor mounts; Choice of colours
- Kiosk management software—remotely add products, change prices instantly or at pre-assigned times, ascertain kiosk health







## MALL DIRECTORY & BUILDING MAPS

Make your building directory a revenue earner using interactive advertising modules. Ideal for

- Mall Directories
- “brick & mortar” stores to promote their online stores.
- Building directories
- up to 65” diagonal
- Targeted advertising - Advertisement played depends on product or store searched for by customer.
- Easily updated over LAN, or through the internet.



## SIGNAGE IN SHOWROOMS

- Engage customers with a uniform corporate presentation across all outlets
- Instantly update all your showrooms with latest product updates
- Selective updates possible eg by States or Cities
- Remote management from a central server



## PALAS WEB BROWSER

Uses the Palas interactive browser to get customers to browse an existing website. Quick start-up and low cost, as special software does not need to be developed, if the existing site is “touch-friendly”.

For public access interactive kiosks, it is important that that users access only specified web sites, and the Palas browser is designed to restrict access to any other site. Though this runs on Win 10, the browser does not allow access to the desktop by normal users to prevent unauthorised changes being made.





Deliver stunning presentations with slick, stylish Palas Touchscreen Tables. Enhance business meetings, events, office receptions, museums with 24/7 displays with multiple touch points. An entertaining way to engage customers, visitors, colleagues.

- A fun way to showcase the entire product or exhibit range
- As restaurant tables—not affected by food or liquids
- Show, discuss plans of a new building or project. Zoom-in for details
- Meeting rooms—discuss yesterdays QC charts

Sizes available - 43cm (17") to 165cm (65").

- Unaffected by liquids, dust, grease, moisture, paan stains, etc. (See video at <http://www.palash.com/Videos.html> ) Uses Projected Capacitive touch technology and electronics,
- Up to 80 simultaneous touches depending on table size
- Stunning visuals with the full HD 1920x1080 resolution display or the optional up to 3840x2160 resolution display
- Powerful performance - next gen Intel processors; Up to 64 GB RAM
- Up to 1TB SSD or up to 2 TB HDD
- Choice of operating systems (Windows, Linux, Android)



Designed & manufactured in India



Not affected by objects on the screen.  
If liquids fall, simply wipe them off



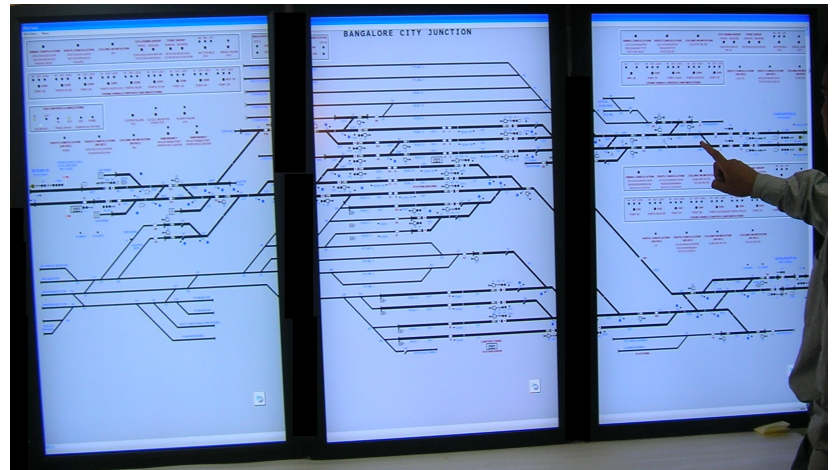
### TABLE WITH OBJECT RECOGNITION MODULE

Keep an object (eg a car or similar) with embedded ORM on the Palas Touch Table. The table recognizes the objects name. Rotate the car, and details about the car are shown, like specifications, videos, comparisons. (Requires Palas Touch Table and Palas ORM modules for operation. ORM modules (size 25mmx50mm) can be fitted to most customer scaled models)





Hyundai showroom



### Bangalore Railway Station

3 x 46" Palas Touch Monitors control the movement of trains on the tracks at Bangalore City Junction. A "mission-critical" application.



Honda Car Factory



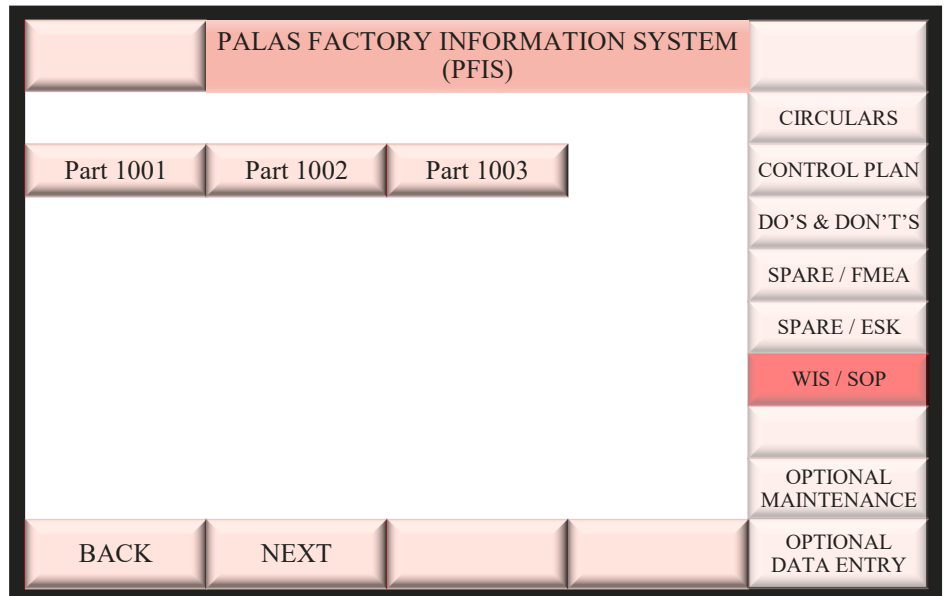
WIS and Control Plans at the touch of a finger. Easily updated across the plant.

To use, simply select WIS and touch the model and the part number, or operator station. The selected WIS/SOP/CP is displayed.

Over 3000 WIS sheets can be selected

Model and part numbers are easily changed any time by the customer

Large, intuitive buttons make operation very simply and quick. Employees can choose the product, quality parameters, production numbers by simply touching choices on the screen.



Files, if in XL, Word, PowerPoint, jpg., etc, can be easily converted to PDF.

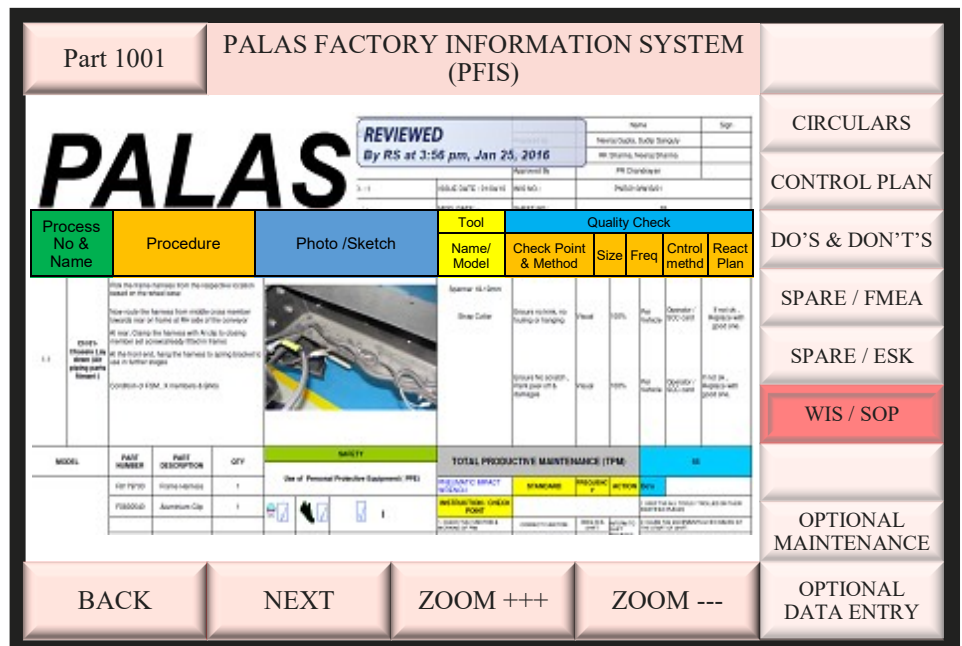
Touching do's and don't's gives common faults, or plays a video

If a new model is scheduled, just touch the model and part number, and a new WIS appears:

Special messages, safety information can be displayed either by a text message, or a video

Button names, WIS, CP, can be changed and updated by the customer at any time.

Changes to sheets are instant across the plant



Palas Touch Systems are in use on plant floors in India and overseas in a large number of industries with an amazing variety of uses:

- Machine tool control
- Process Control, mounted on equipment and in the control room
- Web view and vision control in high speed printing machines
- QC Data entry in harsh environments with 60° C ambient temperatures
- Dashboard information
- Employee suggestions and grievances
- Air Traffic Control with Palas Ultra high resolution displays



Process Control 24/7 applications

The Palas Factory Information System (PFIS) has an optional on-line Data Entry module (PFIS-WIS-DE): To enter Quality Check data and production data. This packaged software can be easily adapted by the customer to suit parts under production. Be up and running in minutes.

To use, select the part number from the main PFIS page

Relevant QC checkpoints are shown, and the inspector can easily enter data, prompted by context driven prompts

Up to 10 QC checkpoints are available in the basic menu

Part numbers and QC Checkpoints are easily customized by the customer

Once data for the first QC checkpoint is entered, the next checkpoint is automatically displayed

On touching "save data", the data is saved, time stamped, and sent to a designated location, from where it can be imported into applications like ERP, XL, etc

These reports can be customized by the customer, and collated by shift, day, etc for each part

**DESIGNED AND MADE IN INDIA**

- Modular structure, start with even a single unit, expand as and when needed to 1,000 or more
- Very low starting cost. Buy only the modules you need now
- Ready-to-use software, no expensive customization.
- Add part numbers, WIS sheets yourself, whenever needed
- Be up and running in minutes, using WIS/SOPs that are presently being used in your plant
- For portable applications, PFIS can be used on any many tablets, if for example, being used by Inspectors as they walk around the plant floor for random or periodic checks
- Unique product, ideal for MSME industries

Data Entry could also be in the form of a checklist, for the inspector to verify visually or against a standard

Checkpoints are easily customized by the customer

Saved data can be imported into applications like XL for analytics



PX11276
PALAS FACTORY INFORMATION SYSTEM (PFIS)

JOINTS OK	<input checked="" type="checkbox"/>	✓
WELD OK	<input checked="" type="checkbox"/>	✓
VISUAL OK	<input checked="" type="checkbox"/>	✓
Burr:	<input checked="" type="checkbox"/>	✗
Dent	<input checked="" type="checkbox"/>	✓

BACK
SAVE DATA
OPTIONAL DATA ENTRY

## PRODUCTION DATA

Online entry of production data enables monitoring of hourly production remotely

Using the onscreen keypad operators enter quantity produced at specified intervals

This data is saved, time stamped, and sent to a designated location, from where it can be imported into applications like ERP, XL, etc

These reports can be customized by the customer, and collated by shift, day, etc for each part

X11276
PALAS FACTORY INFORMATION SYSTEM (PFIS)

TIME	QTY			
0830	84	1	2	3
0930	160	4	5	6
1030	158	7	8	9
1130	165	CLEAR	0	OK
1300				
1400				

BACK
SAVE DATA
OPTIONAL DATA ENTRY

Touch Screen ID: rw
PROD DATE: 05-Mar-2007
05-Mar-2007 15:58:35

KILN No: K19
OF/RF: O/F
BRAND: RAASI
LOCATION: CD2

K14	OF	SORTER NUMBER			
K19	RF	1	2	3	4
K20	BRAND	5	6	7	8
EXIT	HINDWARE	9	0	BACK SPACE	CLEAR
	RAASI				

Touch screen ID: rw
PROD DATE: 05-Mar-2007
ONCE FIRED
BRAND: HINDWARE

RE FIRE	WB	PDSTL	EWC	CSTRN	POTTER No: 222
MAIN MENU	SINK	URNL	BIDET		GLAZER No: 22
COLOUR: WH	SUBCATEGORY: CONSTELLATION				INSPCTR No: 11
DEFECTS: BLOT INK					SORTER No: 11 KILN No: K14
					OK EXIT

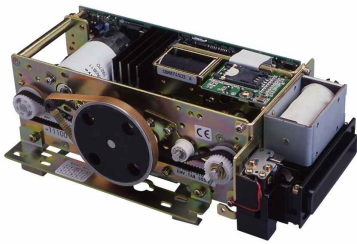
QUALITY

STANDARD	COMMERCIAL	REFIRE	PITCHER	REWORK
----------	------------	--------	---------	--------

Palas Touch Systems are working in harsh, hot, dusty areas, like in ceramic factories

Sankyo produces a wide range of motorised and manual smart card readers, incorporating cutting edge technology.

Sankyo Smart Card Readers are made in Japan and used extensively in applications like POS terminals, kiosk terminals, payment systems, security terminals and other ID terminals. Very reliable and durable, Sankyo smart card readers have an 80% share of the world ATM market.



## Motorised Card Readers and Writers

- High Reliability and Durability
- ISO Standard Compliant for Chip Card Protocol Handling
- EMV 2000 Ver. 4.0 Type Approved and Compliant
- Mechanism for Warped Card Handling
- Non EMV Cards Support
- Options like Image Scanner and Power Ejecting Unit

## Dip Type Manual Card Readers

- Custom CMOS LSI Designed to Support Many Card Speeds
- Specially Designed Head Mounting for Warped Cards
- EMV 2000 Ver 4.0 Type Approved
- Some models made by Palas in India

## Manual Swipe Card Reader

- Custom CMOS LSI designed to support many card speeds.
- Specially designed head mounting for warped cards

## Contactless Card Reader

- Card Type: ISO/IEC14443
- Type A, B
- RS232 and USB
- NFC option

	Magnetic stripe			IC Card			Shutter	Inter- face	Power Supply	Dimensions			Unit Life (Passes)
	ISO/IEC 7811			ISO/IEC 7816	Protocol handling	EMV				W	D	H	
	Tr.1	Tr.2	Tr.3										
<b>Motorised Card Readers and Writers (ICT 3Q8 – 3A0260)</b>	R/W	R/W	R/W	R/W	T=0,1	Ver 4.0 Approved	Full	RS232	+24V DC	108	212	68	1,000,000
<b>Motorised Card Readers and Writers (ICT 3K5 – 3R6240)</b>	R	R	R	R/W	T=0,1	Ver 4.0 Approved	Full	RS232	+12V DC	97	167	43	500,000
<b>Manual Card Readers (ICM 300 - 3R1372)</b>	R	R	R	R/W	T=0,1	Ver 4.0 Approved	Pin	RS232C	+12V DC	80	125	50	300,000
<b>Card Issuers (SCT 3Q8 - 3A0241) (150 Cards)</b>	R/W	R/W	R/W	R/W	T=0,1	Ver 4.0 Approved		RS232C	+24V DC	115	471	297	500,000

Magnetic Swipe and IC Chip Hybrid Card Reader, made in India by Palas with components from Sankyo, Japan and from India, using technology from Sankyo.

- High reliability and durability
- EMV approved
- Ideal for ATMs, Kiosk payment terminals, and high security access control



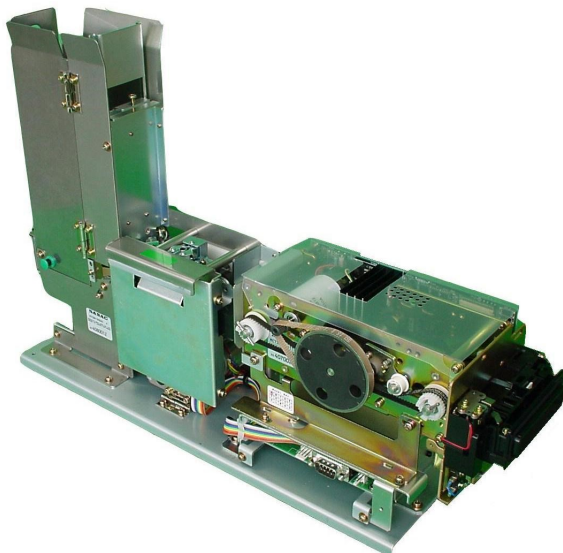
Specifications	
Model	ICM30K-3R1182
IC Contact	ISO/IEC 7816—Part 1, 2 and 3 Protocol Handling (T=0 and 1) EMV 2000 Ver 4.0 Level 1 approved
Magnetic Stripe	ISO/IEC 7810, 7811, 7813 Track 1, 2 and 3 (Read only)
Power Requirement	+12VDC / 0.4A (0.7A at peak 2ms)
Signal Interface	RS232C
Unit Life	More than 1,000,000 passes
Dimensions	80mm(W) x 125mm(D) x 50mm(H)
Connector	3662-5002LCSC (3M)
Weight	165g approx

## Card Dispenser - Encoding and Printing

Card Issuer stores 150 cards in a single hopper, and, on command, encodes either IC or Mag or both, and issues them. Optional feature enables printing single line of text, eg name/number of card holder.

Ideal for:

- Bank branches - issue debit cards immediately when new accounts are opened. No waiting, and no complaints of cards lost in post, no courier charges,
- Loyalty cards, house cards can be instantly issued by stores, clubs,
- Hotel key cards can be issued automatically from a self-service kiosk
- Sim card dispensing

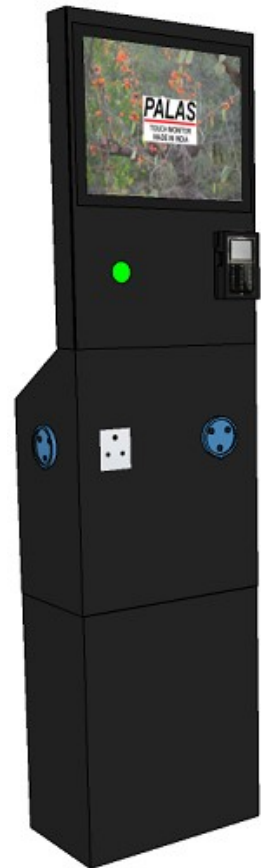


IC Card	ISO/IEC7816 / 1-3. Protocol Handling T=0 and 1 EMV 2000 ver 4.0 compliant
Mag Stripe	ISO/IEC7816 series 7813
Interface	RS232
Lifetime	500,000 passes
Dimension	115 x 471 x 297 mm
Option	Single Color Printing
Option	3 Hoppers for storing 3 types of cards
Option	Housing with lock

# Electric Vehicle Charging Self-Service Systems for Malls, Office Buildings, Apartments

EV Charging Systems, designed and manufactured by Palas in India

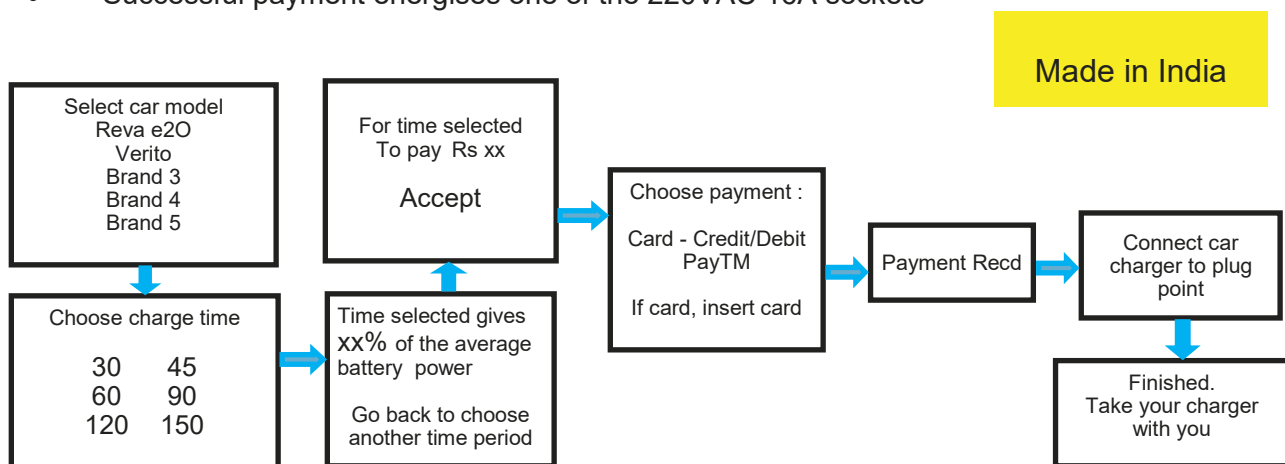
- Help reduce pollution by providing convenient EV charging points
- In-built easy-to-use payment system solves issues of how to charge for the electricity.
- Accepts payments by Credit/Debit Cards or by e-wallets like PayTm
- Large touchscreen displays, informative, easy-to-use; show attractive advertisements or social messages while charging
- 16A industrial sockets fit all standard EVs
- Sockets energised for specified duration only on successful payments
- Most current EVs will charge up to 80% in 2 hours.
- Embedded Win 10 (IoT) for easy integration with advertisements and other applications
- Reports– daily/monthly usage data & analytics.
- Remote health management
- Optional - Show EV charging receipt and get discounts at select restaurants in Mall
- Optional - scan a movie ticket or store bill at the EV station and get free charging
- Optional - systems for AC Fast (normally AC Slow is recommended, as most vehicles charge up to 80% within 2 hours)
- Optional - Space saving wall mounted systems



Ideal for Parking Garages in Malls, Office buildings, Apartments, Airports, Stations

## EV CHARGING STATIONS

- Touch the large touchscreen to choose the time-duration for charging—eg 30 / 45 / 60 /90 /120 minutes
- Estimates are displayed on the large touchscreen, showing, for some popular cars, approximate percentage of battery charging that can be done in the chosen minutes
- The amount for the duration selected is shown on the screen, touch to confirm
- Select the payment method—debit/credit card or an e-wallet
- If card, insert card, and enter pin on the secure pinpad
- If e-wallet, enter mobile number, select pay, and enter pin on mobile to complete transaction
- Successful payment energises one of the 220VAC 16A sockets



ENCOURAGE ELECTRIC VEHICLES AND SAVE OUR CHILDREN FROM POLLUTED AIR



# Specifications - Self-Service Systems - Electric Vehicle Charging

## Self Service Systems - specifications

	Models	170BCCM-K-SO 170BCCM-K-SO-QR 170BCCM-KF-SO 170BCCM-KF-SO-QR	215BCCM-K-SO 215BCCM-K-SO-QR 215BCCM-KF-SO 215BCCM-KF-SO-QR	270BCCM-K-SO 270BCCM-K-SO-QR 270BCCM-KF-SO 270BCCM-KF-SO-QR	320BCCM-K-SO 320BCCM-K-SO-QR 320BCCM-KF-SO 320BCCM-KF-SO-QR
Display	View area diagonal	<b>43cm (17")</b>	<b>55cm (21.5")</b>	68cm (27"W)	80cm (31.5"W)
	Format	5:4	16:9	16:9	16:9
	Display View Area	338 x 270 mm	477 x 268 mm	597 x 336 mm	697 x 392 mm
	Brightness (cd/m <sup>2</sup> )	Standard : 250 ; Optional up to 2000			
	Resolution	1280 x1024	1920 x1080	1920x1080	1920x1080
Touch Screen	Type	Capacitive			
	Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains			
Processor	Operating System	Standard Win 10 E			
	Processor	Standard Celeron; Optional i3 / i5 /i7			
	Memory	HDD - 120GB SSD ; RAM - 4GB			
Card Reader	Credit / Debit Cards	IC Chip Card -ISO/IEC7810; in-built pinpad; contactless wave & pay Accepts VISA, Master Card, Maestro Cards, RuPay; options for e-wallets			
Scanner	Optional: Type	Optional, available in models numbers ending with QR; 1D / 2D Imager, Reads Linear, 2D Matrix, QR codes from paper prints or Mobile phone screens			
Floor Mount	Optional:	Optional, available in model numbers which have "F" in them			
Dimension	wall mount model (WxDxH)	400x70x600 mm	400x80x800 mm	400x80x900 mm	460x80x970 mm
	floor mount model (WxDxH)	400 x 400 x ~1500 mm	400 x 400 x ~1600 mm	400 x 400 x ~1800 mm	460 x 400 x ~1800 mm
Others	Power (W) max	220VAC; <80W	220VAC; <100W	220VAC; <150W	220VAC; <150W

## EV Charging Stations - specifications

	Models	170BCCM-SO-RO-EV 170BCCM-SO-QR-RO-EV	270BCCM-SO-RO-EV 270BCCM-SO-QR-RO-EV	320BCCM-SO-RO-EV 320BCCM-SO-QR-RO-EV
Display	View area diagonal	43cm (17")	68cm (27"W)	80cm (31.5"W)
	Format	5:4	16:9	16:9
	Display View Area (mm)	338 x 270	597 x 336	697 X 392
	Brightness (cd/m <sup>2</sup> )	Standard : 250 ; Optional up to 2000		
	Resolution	1280 x1024	1920x1080	1920x1080
Touch Screen	Type	Capacitive		
	Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains		
Processor	Operating System	Standard Win 10 (IoT) Embedded		
	Processor	Standard Celeron;		
	Memory	HDD - 120GB SSD ; RAM - 4GB		
Card Reader	Credit / Debit Cards	IC Chip Card -ISO/IEC7810; in-built pinpad; contactless wave & pay Accepts VISA, Master Card, Maestro Cards, RuPay; options for e-wallets		
Scanner	Optional: Type	Optional, available in models numbers ending with QR; 1D / 2D Imager, Reads Linear, 2D Matrix, QR codes from paper prints or Mobile phone screens		
Charging	Sockets	AC Slow; Energised only on instruction from PSSS software logic Standard: 220VAC 16A; 1 x 3 pin socket, (IS1293 - BS547 Type M); 2 x 3 pin IEC60309; Optional : IEC 62196 63A for AC Fast Systems		
Charging	Cables	Customer to use own cables; optional system with in-built cable options A,B,C Standard connector : IEC60309 ; Optional : IEC62196 (for AC Fast systems)		
Environment	Temp rating	0 to 50° C		
	IP	Standard IP53 models are for indoor; optional IP54- for outdoor use		
Dimension approx	(WxDxH) (mm) wall mount	400x250x600	400x250x900	470x250x1000 mm
	Floor mount	400x250x1600	400x250x1600	470x250x1800 mm
Others	Power (W)	Standard 220VAC ; optional 3 phase 415VAC for AC Fast		

## How it works

In Projected capacitive technologies when a finger or a conductive stylus approaches an electrode, it disturbs the electromagnetic field and alters the capacitance. This change in capacitance is converted by the electronics into X,Y locations. There are two main types of sensing methods, self-capacitance and mutual capacitance,”

### Self-Capacitance

In this the electronics measure the current on each electrode to ground and therefore is called “self-capacitance”. There are two options for how the system can detect touch — multi-pad construction or rows and columns. In a multi-pad construction, each electrode, or “pad”, is individually connected to the controller. This allows multi-pad self capacitance to support greater than one touch, but given that each pad must be individually connected, it makes using this solution for screens greater than 3.5 inches very challenging. Generally limited to dual touch

### Mutual Capacitance

In this projected capacitance touchscreens intentionally create mutual capacitance between elements of columns and rows in the vicinity where each intersect the other. This allows the system electronics to measure each node (intersection) individually to detect multiple touches on the screen during one screen scan. A finger touch in near an intersection reduces the capacitance at the intersection which is measured by the system electronics. This reduced capacitance crosses the “touch threshold” set by the electronics indicating a touch has occurred

## PCT (Projected Capacitive Touchscreens)

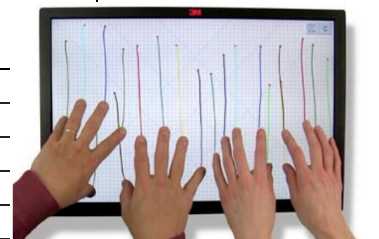
3M Multi-touch Touchscreens, based on 3M Projected Capacitive touch technology and electronics, offer fast, accurate and simultaneous up to 80-finger touch functionality, with palm rejection

- Advanced metal mesh technology with palm rejection. Over 16,000 touch sensing points for precision
- fast 12 millisecond touch response
- Non-active, chemically strengthened cover glass, durable, easy to clean;
- Anti-friction surface enhances user experience; polished or anti-glare finish
- Works with light touch and with gloves
- Compatible with Windows 10, 11, Linux, Android, iOS
- Sizes from 15” to 65”. 20 finger input up to 55”; 80 finger input for 65”
- Optional up to 60 finger input for 43” to 55”
- **Not affected by surface contaminants such as dirt, grease, liquids**



## Touch Screen Specifications

Touch Inputs	10 touches 10 to 55”; 40 touches : 65” Optional up to 60 touches for 43” to 65”
Palm Rejection	Yes
Touch Screen Construction	Non-active cover glass
Total Thickness	2.4mm
Input Method	Finger, Thin gloves
Touch Refresh rate	< 12ms
Accuracy	>99% of true position
Touch Resolution	4K x 4K
Light Transmission	>88%
Surface Finish	Polished or Anti-glare; anti-stiction.
Operating Temperature	-20 to 70 deg C for the touchscreen
Humidity	Upto 90% RH from 0 to 35 deg C, non-condensing
Surface Obstruction	Not affected by surface contaminants like dirt, dust, grease, liquids
Chemicals	Resistant to corrosives, as per ASTM D1308 & ASTM F-1598
NEMA	IP66 / NEMA 4X sealable
Touch Interface	USB
Cleaning	Wipe with damp cloth moistened with Water or isopropyl alcohol
Operating current	5VDC, <150mA max (USB)
Regulatory	FCC-B, CE, IEC60950



**No bezel  
Full front flat glass**

Flicks to move, Pinch to zoom, Multi-finger rotation

### Some Multi-Touch Applications

- Retailers, car showrooms, estate agents—enhance in-store experience
- Corporate offices for demonstrations & sales
- Factories for training, discussion rooms. Zoom in to see complex drawings.
- Train employees in a more compelling way
- Enliven exhibits in museums, galleries,
- Full front flat glass enables easy cleaning, ideal for food service areas & self-service kiosks

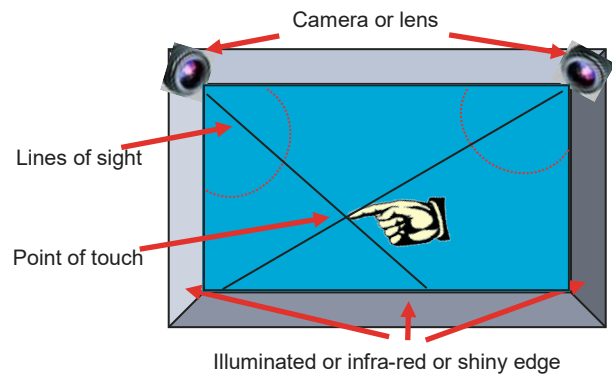


## Optical Touch / Surface Touch Screens

Two or more camera lenses are fixed on the top corners of the display, pointing towards the shiny surface of the opposite bezel surface. They normally get a clear reflection back. When a finger touches the display, it obstructs the line of sight of each camera at a point on the opposite bezel. The intersection of the two lines of sight is the point of touch.

The display could be LCD or rear-projection.

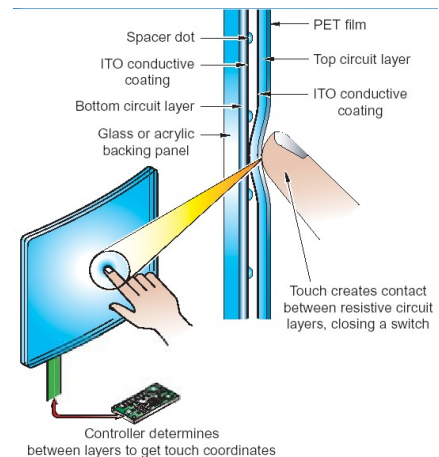
The lenses and the shiny opposite bezels have to be kept clean, as any dust or grease will obstruct the line of sight, affecting the performance.



## Resistive Touch Screens

Resistive touch screens have a flexible top layer and a rigid bottom layer separated by insulating dots, with the inside surface of each layer coated with a transparent conductive coating. Voltage applied to the layers produces a gradient across each layer. Pressing the flexible top sheet creates electrical contact between the resistive layers, essentially closing a switch in the circuit.

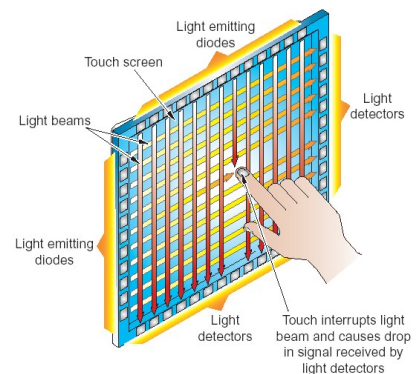
The technology and electronics are simple, making resistive the cheapest touch screen technology. But since the voltage gradient is needed on both the layers, any damage to either layer causes the touch screen to stop functioning. And damage is easy, since often both layers are plastic. This lack of durability means that resistive technology should not be used for applications like public access kiosks, industrial locations or on displays larger than 12”.



## Infrared Touch Screens

Infrared touch screens are based on light beam interruption technology. Instead of an overlay on the surface, a frame surrounds the display. The frame has light sources, or light emitting diodes (LEDs) on one side and light detectors on the opposite side, creating an optical grid across the screen. When an object touches the screen, the invisible light beam is interrupted.

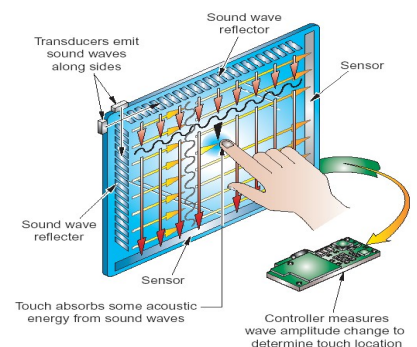
Since the infrared beams are a little in front of the display, touch is activated even before the user actually touches the display, causing parallax errors. Dust covering the infrared lenses may cause inaccuracy



## Acoustic Wave Touch Screens

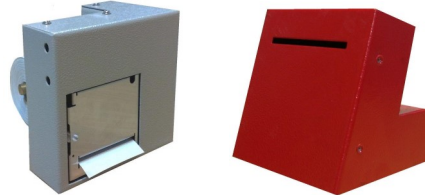
Acoustic wave touch screens use transducers mounted at the edge of a glass overlay to emit ultrasonic sound waves along two sides. These waves are reflected across the surface of the glass and received by sensors. A finger or other soft tipped stylus absorbs some of the acoustic energy and the controller measures the amplitude change of the wave to determine touch location.

There are two variants of Acoustic, Surface Acoustic Wave ( SAW ) and Guided Acoustic Wave ( GAW ), both working on the same principles. Dust, grease or moisture on the screen may cause erroneous touch.



- Designed for OEM use - customized to suit individual requirements.
- Easy to install with a variety of mounting options.
- Easy paper loading - just drop in the paper. No need to loosen screws or brackets
- Large paper roll size - up to 250mm.
- Auto-cutter
- Paper widths from 58mm to 112mm
- Used in kiosk, panels, machinery, ATMs, etc.
- Manufactured by Palas in India

**Made in India**



		<b>PKRM</b>	<b>PKMG / PKTL</b>
Printing Speed	mm/s	75; optional up to 250	180
Printing width	mm	Up to 56	72 / 80
Resolution	dots/mm	8	
Number of dots	dots	384 / 448	576 / 640
Columns		32	44 or 56
Character Size		12*24 or 16*24	
Bar Code Printing		Yes	
Paper width	Mm	60	80 / 82.5
Paper Roll diameter	mm	70	Upto 200
Paper thickness	µm	60 - 80	80 or 110
Paper loading		Auto loading	Rear (Auto)
Operating Voltage range	V	12 or 24	24 VDC
Current consumption	A	2.5 avg	2.5 avg
Head pulse Life	pulse	1x10 <sup>8</sup>	1x10 <sup>8</sup>
Mechanical reliability	km	100	100
Dimension (WxDxH)	mm	132*88*113	164*129*142
Operating temperature	°C	0 to 50	
Humidity	%RH	Below 85	
Cutter		Auto cutter	
Cutter Life		1 million	
Data buffer	Kbytes	4	
Interface		RS232 and USB	
Driver		Windows / Linux	
Sensor		Optional paper-low, no-paper, black-mark	

## Other Printers

- **Small Panel Thermal Printer** - Optional controller board, 58mm paper width, 50mm paper roll capacity, multiple mounting points, 5V, RS232 and TTL interfaces, ideal for test & measuring instruments, medical equipment, taxis,
- **112mm Thermal Printer** for Kiosk use. Large paper width facilitates printing of Bank Statements, Transportation Tickets



**The QTP - The Incredibly Tiny Thermal Printer**

Weight : Only 200 gms  
Paper width : 58mm

Receipts printed on Palas Printers can last up to 2 years

# Touch Monitor Specifications, Surface Capacitive (small sizes)

Size	21cm (8.4")	26cm (10.4")	38cm (15")	38cm (15")	38cm (15")	38cm (15")	38cm (15")	43cm (17")	43cm (17")	43cm (17")	47cm (18.5")	48cm (19") 4:3			
Models	084PCUM	104PCUMF	150PCUM, 150PCUMF, 150PCUT, 150PTUT	150PCUT-Bxxx	150LCU3 / M150SS	150PCU3 / C150SS	170PCUM, 170PCUMF, 170PTUM, 170PTUMF	170LCU3 / M1700SS	185PCUM, 185PTUM	190PCUM, 190PCUMF, 190PTUM, 190PTUMF					
Front Bezel	Metal 20mm width	Metal 40mm width	Metal 20mm (45 in F&T)	Metal 40mm width	Metal 50mm width	Metal 25mm width	Metal 20mm; (45 in F)	Plastic, 40mm width	Metal 30mm; (50 in F)	Metal 20mm; (45 in F models)					
Touch Screen															
Touch Points	Single Touch														
Input Method	Finger, or 3M Smart pen.														
Touch Screen	Surface Capacitive														
Touch response time	less than 5.4 ms														
Accuracy	> 99% of True Position														
Light Transmission	greater than 91%														
Touch resolution	16K x 16K with EXII controllers														
Surface Finish	Anti-reflective, easy-glide, ClearTek Hard coat														
Surface scratch	Hardness MoHS 7 or higher to induce a functions failure														
Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, pean stains														
Chemicals	Resistant to corrosives, as per ASTM D1308-02 & ASTM F-1598-95														
Optional Protection	Front face sealable to Nema 4X / IP65 Front protected from sprays of water														
<b>Display</b>															
Format	4:3	4:3	4:3	4:3	4:3	4:3	4:3	5:4	5:4	5:4	16:9	5:4			
Display Area (mm)	170 x 128	211 x 158	304 x 228	304 x 228	304 x 228	304 x 228	338 x 270	338 x 270	410 x 256	376 x 302					
Pixel Pitch	0.21	0.26	0.297	0.297	0.297	0.297	0.264	0.264	0.285	0.294					
Brightness (cd/m <sup>2</sup> )	250	200	350	750	250	250	250	250	250	250					
Resolution	800 x 600	800 x600	1024 x 768	1024 x 768	1024 x 768	1024 x 768	1280 x1024	1280 x1024	1366x768	1280 x1024					
Viewing Angle	H >120, V >120	H >120, V >120	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140			
<b>Others</b>															
Operating Temp Display	0 - 50° C			0 - 50° C			0 - 50° C; Optional 0 to 60° C			0 - 50° C			0 - 50° C; Optional 0 to 60° C		
Operating Temp Touchscreen	-20 to 70°C;														
Relative Humidity	85% non-condensing														
Connectors-Power	12VDC / 220VAC			220VAC			12VDC / 220VAC			220VAC					
Connectors-Touch	USB	USB	Standard-USB; Optional:Serial												
Connectors-Display	VGA	VGA	VGA	VGA	VGA	VGA	VGA	DVI	VGA	VGA	VGA	VGA			
Power (W) max	16	16	28	28	30	30	40	40	<60	<60					
Touch Monitor made in	India	India	India	India	USA	USA	India	India	USA	USA	India	India			

# Touch Monitor Specifications, Surface Capacitive (large sizes)

<b>Size</b>	<b>51cm (20") 4:3</b>	<b>55cm (21.5") wide</b>	<b>56cm (22") W</b>	<b>58cm (23")</b>	<b>60cm (23.5")</b>	<b>61cm (24")</b>	<b>61cm (24")</b>	<b>68cm (27")</b>	<b>80cm (31.5")</b>
<b>Models</b>	200PCUM, 200PTUM	215PCUM, 215PCUMF	C2254PW / 220PCU3	230PCUM	235PCUM, 235PCUM-F	240PCUM	240PCUM-x-1610, 240PCUM-F-1610	270PCUM, 270PCUMF, 270PCUM-U	320PCUM, 320PCUMF, 320PCUM-U, 320PTUM
<b>Front Bezel</b>	Metal 20mm width	Metal 20mm; (45 in F models)	Metal 25mm width	Metal 30mm; (50 in F	Metal 30mm; (50 in F	Metal 30mm	Metal 30mm; (50 in F models)	Metal 30mm; (50 in F models)	Metal 30mm; (50 in F models)
<b>Touch Screen</b>									
<b>Touch Points</b>									
<b>Input Method</b>									
<b>Touch Screen</b>									
<b>Touch response time</b>									
<b>Accuracy</b>									
<b>Light Transmission</b>									
<b>Touch resolution</b>									
<b>Surface Finish</b>									
<b>Surface scratch</b>									
<b>Surface Obstruction</b>									
<b>Chemicals</b>									
<b>Optional Protection</b>									
<b>Display</b>									
<b>Format</b>	4:3	16:9	16:10	16:9	16:9	16:9	16:9	16:9	16:9
<b>Display Area (mm)</b>	410 x 310	477 x 268	475 x 297	510 x 287	520 x 293	531 x 299	527 x 296	597 x 336	697 x 392
<b>Pixel Pitch</b>	0.268	0.248	0.282	0.265	0.271	0.277	0.27	270PCxM: 0.31; 270PCxMU: 0.15	320PCxM: 0.51; 320PCxMH: 0.36; 320PCxMU: 0.18
<b>Brightness (cd/m<sup>2</sup>)</b>	250	250	250	250	250	300	300	300	350
<b>Resolution</b>	1600 x1200	1920 x1080	1680 x1050	1920 x1080	1920 x1080	1920x1080	1920*1200	270PCxM :1920x1080 270PCxMU : 3840x2160	320PCxM: 1366x768; 320PCxMH: 1920x1080 320PCxMU : 3840x2160
<b>Viewing Angle</b>	H >140, V >140	H178, V178	H >170, V >160	H >170, V >170	H >170, V >170	H >170, V >170	H >140, V >140	H178, V178	H >170, V >170
<b>Others</b>									
<b>Operating Temp Display</b>	0 - 50° C	0 - 50° C; Optional 0 to 60° C		0 - 50° C	0 - 50° C		0 - 50° C; Optional 0 to 60° C	0 - 50° C; Optional 0 to 60° C	0 - 50° C; Optional 0 to 60° C
<b>Operating Temp Touchscreen</b>									
<b>Relative Humidity</b>									
<b>Connectors-Power</b>									
<b>Connectors-Touch</b>									
<b>Connectors-Display</b>	VGA/DVI	VGA / HDMI	VGA	VGA	VGA	VGA	VGA	VGA/DVI	HDMI
<b>Power (W) max</b>	<60	<60	<60	<60	<60	<60	<60	<60	<60
<b>Touch Monitor made in</b>	India	India	USA	India	India	India	India	India	India

# Touch Monitor Specifications, Projected Capacitive (small sizes)

Model	150PMUM	170PMUM- 170PMUMF	170PMUM-G, 170PMUM-GS, 170PMUM-IP	185PMUM 185PMUMF	215PMUM 215PMUMF	215PMUM-G, 215PMUM-GS, 215PMUM-IP	215PMUM3 M2167PW	240PMUM	240PMU3 M2467PW	
Display Size	38cm (15")	43cm (17")	43cm (17")	47cm (18.5")	55cm (21.5")	55cm (21.5")	55cm (21.5")	60cm (24" W)	60cm (24" W)	
Front Bezel width	Metal 20mm	Metal 20mm; (40 in F)	Flat Glass No bezel, 20mm	Metal 20mm; (40 in F)	Metal 20mm; (40 in F models)	Flat Glass No bezel, 20mm border	Flat Glass No bezel, 20mm border	Metal 20mm; (40 in F models)	Flat Glass No bezel, 20mm border	
<b>Touch Screen</b>										
Touch Points	10 simultaneous touch points									
Input Method	Finger, thin gloves, or 3M Smart pen.									
Touch Screen	Projected Capacitive									
Touch response time	less than 12 ms									
Accuracy	Within 1% of True Position									
Light Transmission	greater than 88%									
Surface Finish	Non-active cover glass, no wear mechanism. Anti-reflective									
Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains									
Chemicals	Resistant to corrosives, as per ASTM D1308-07 & ASTM F-1598-95									
Protection	Front face sealable to Nema 4X / IP65 Front protected from sprays of water									
<b>Display</b>										
Format	4:3	5:4	5:4	16:9	16:9	16:9	16:9	16:9	16:9	
Display Area (mm)	304 x 228	338 x 270	338 x 270	410 x 256	476 x 268	476 x 268	476 x 268	527 x 296	531 x 299	
Pixel Pitch	0.297	0.264	0.264	0.285	0.248	0.248	0.248	0.27	0.277	
Brightness (cd/m <sup>2</sup> )	350	250	250	250	250	250	250	300	250	
Resolution	1024x768	1280x1024	1280x1024	1366x768	1920x1080	1920x1080	1920x1080	1920x1080	1920x1080	
Viewing Angle	H > 140, V > 140	H > 140, V > 140	H > 140, V > 140	H > 140, V > 140	H178, V178	H178, V178	H170, V170	H > 170, V > 170	H170, V170	
<b>Others</b>										
Operating Temp	0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C		0 - 50° C	Standard 0 - 50° C Optional 0 - 60° C					0 - 50° C
85% non-condensing										
Power / Connectors	12VDC / 220VAC	220VAC	220VAC	220VAC	19VDC / 220VAC; DVI / DP	19VDC / 220VAC; DVI / DP	100-220VAC; HDMI / DP	19VDC / 220VAC; HDMI / DP	100-220VAC; HDMI / DVI / DP	
Power (W)	28	40	40	<60	<60	<60	<60	<60	160	
Touch Monitor made in	India	India	India	India	India	India	USA	India	USA	

# Touch Monitor Specifications, Projected Capacitive (medium sizes)

Model	270PMUM, 270PMUM-F, 270PMUM-U	270PMUM-G, 270PMUM-JG, 270PMUM-HP	270PMU3 M2767PW	320PMUM, 320PMUM-F, 320PMUM-U	320PMUM-G, 320PMUM-JG, 320PMUM-IP	320PMUM-B-G, 320PMUM-B-IP, 320PMUM-U-B-G	320PMU3 C3266PW	430PMUM, 430PMUM-U
Display Size	68cm (27"W)	68cm (27"W)	68cm (27"W)	80cm (31.5")	80cm (31.5")	80cm (31.5")	80cm (31.5")	107cm (42.5")
Front Bezel width	Metal 20mm; (40 in F models)	Flat Glass No bezel, 20mm border	Flat Glass No bezel, 20mm border	Metal 30mm; (50 in F models)	Flat Glass No bezel, 20mm border	Flat Glass No bezel, 20mm border	Flat Glass No bezel, 20mm border	Metal, 40mm
<b>Touch Screen</b>								
Touch Points	Up to 40 simultaneous touch points with palm rejection							
Input Method	Finger, thin gloves, or 3M Smart pen.							
Touch Screen	Projected Capacitive							
Touch response time	less than 12 ms							
Accuracy	Within 1% of True Position							
Light Transmission	greater than 88%							
Surface Finish	Non-active cover glass, no wear mechanism. Anti-reflective							
Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains							
Chemicals	Resistant to corrosives, as per ASTM D1308-07 & ASTM F-1598-103							
Protection	Front face sealable to Nema 4X / IP65 ; Front protected from sprays of water							
<b>Display</b>								
Format	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9
Display Area (mm)	597 x 336	597 x 336	597 x 336	697 x 392	697 x 392	697 x 392	697 x 392	941 x 529
Pixel Pitch	270PMUM, 270PMUM-G: 0.31; 270PMUM-U / UG / IP: 0.15	0.31	0.31	320PMUM / F / G: 0.36; 320PMUM-U / UG / IP: 0.18	320PMUM-B-G/IP: 0.36; 320PMUM-U-B-G: 0.18	0.36	0.36	430PMUM: 0.49; 430PMUM-U: 0.245
Brightness (cd/m <sup>2</sup> )	300	300	300	250	250	1000	450	350
Resolution	270PMUM, 270PMUM-G: 1920x1080; 270PMUM-U / UG / IP: 3840x2160	1920x1080	1920x1080	320PMUM / F / G: 1920x1080; 320PMUM-U / UG / IP: 3840x2160	320PMUM-B-G/ IP: 1920x1080; 320PMUM-U-B-G: 3840x2160	1920x1080	1920x1080	
Viewing Angle	H178, V178	H178, V178	H170, V170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170
<b>Others</b>								
Operating Temp	Standard 0 - 50° C Optional 0 - 60° C							
Relative Humidity	85% non-condensing							
Power / Connectors	19VDC / 220VAC; HDMI / DP	19VDC / 220VAC; HDMI / DP	100-220VAC; HDMI / DP / DVI /	19VDC / 220VAC	19VDC / 220VAC	19VDC / 220VAC	100-220VAC; HDMI / DVI / VGA	220VAC; HDMI
Power (W)	<60	<60	180	<60	<60	<60	250	<150
Touch Monitor made in	India	India	USA	India	India	India	USA	India

Specifications are subject to change at short notice. Please check latest specifications with Palas prior to ordering



# Touch Monitor Specifications, Projected Capacitive (large sizes)

Model	460PMU3 C4667PW	460PMUM, 460PMUMF, 460PMUM-U	460PMUM-G, 460PMUM-JG, 460PMUM-GS, 460PMUM-HP	550PMUM, 550PMUM -U	550PMUM-G, 550PMUM-JG, 550PMUM-GS	550PMUM-B, 550PMUM-UB	550PMU3 C5567PW	650PMUM, 650PMUM -U	650PMUM-B, 650PMUM-UB	650PMU3 C5567PW	650PMUM, 650PMUM -U	650PMUM-B, 650PMUM-UB	650PMU3 C6567PW
Display Size	117cm (46")	117cm (46")	117cm (46")	139cm (55")	139cm (55")	139cm (55")	139cm (55")	165cm (65")	165cm (65")	139cm (55")	165cm (65")	165cm (65")	165cm (65")
Front Bezel width	Flat Glass No bezel, 30mm border	Metal, 40mm	Flat Glass No bezel, 30mm border	Metal, 40mm	Flat Glass No bezel, 30mm border	Flat Glass No bezel, 30mm border	Flat Glass No bezel, 30mm border	Flat Glass No bezel, 45mm border	Flat Glass No bezel, 45mm border	Flat Glass No bezel, 30mm border	Flat Glass No bezel, 45mm border	Flat Glass No bezel, 45mm border	Flat Glass No bezel, 45mm border
<b>Touch Screen</b>													
Touch Points	Up to 60 simultaneous touch points; palm rejection												
Input Method	Finger, thin gloves, or 3M Smart pen.												
Touch Screen	Projected Capacitive												
Touch response time	less than 12 ms												
Accuracy	Within 1% of True Position												
Light Transmission	greater than 88%												
Surface Finish	Non-active cover glass, no wear mechanism. Anti-reflective												
Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains												
Chemicals	Resistant to corrosives, as per ASTM D1308-07 & ASTM F-1598-103												
Protection	Front face sealable to Nema 4X / IP65 ; Front protected from sprays of water												
<b>Display</b>													
Format	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9	16:9
Display Area (mm)	1018x572	1018x572	1018x572	1210x680	1210x680	1210x680	1210x680	1210x680	1210x680	1210x680	1428x803	1428x803	1428x803
Pixel Pitch	0.53	460PMUM / F / G / GS : 0.53; 460PMUM-U / UGS / IP : 0.27	550PMUM / G / GS / B : 0.63; 550PMUM-U / UG / UGS / UB : 0.32	0.63	550PMUM / G / GS / B : 0.63; 550PMUM-U / UG / UGS / UB : 0.32	0.63	550PMUM / G / GS / B : 0.63; 550PMUM-U / UG / UGS / UB : 0.32	650PMUM / B : 0.74; 650PMUM-U / UB : 0.37	0.372	650PMUM / B : 0.74; 650PMUM-U / UB : 0.37	0.372	650PMUM / B : 0.74; 650PMUM-U / UB : 0.37	0.372
Brightness (cd/m <sup>2</sup> )	700	Standard 700; Optional 1000-1500	Standard 700; Optional 1000-1500	350	Standard 700; Optional 1000-1500	350	Standard 700; Optional 1000-1500	450	750	700	450	750	450
Resolution	1920x1080	460PMUM / F / G / GS : 1920x1080 460PMUM-U / UGS / IP : 3840x2160	550PMUM / G / GS / B : 1920x1080; 550PMUM-U / UG / UGS / UB : 3840x2160	1920x1080	550PMUM / G / GS / B : 1920x1080; 550PMUM-U / UG / UGS / UB : 3840x2160	1920x1080	550PMUM / G / GS / B : 1920x1080; 550PMUM-U / UG / UGS / UB : 3840x2160	650PMUM / B : 1920x1080; 650PMUM-U / UB : 3840x2160	3840x2160	1920x1080	650PMUM / B : 1920x1080; 650PMUM-U / UB : 3840x2160	3840x2160	3840x2160
Viewing Angle	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170	H >170, V >170
<b>Others</b>													
Operating Temp	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	0 - 50° C	Standard 0 - 50° C Optional 0 - 60° C	Standard 0 - 50° C Optional 0 - 60° C	0 - 50° C
Relative Humidity	85% non-condensing												
Power / Connectors	19VDC/220VAC; HDMI / DVI / VGA / DP	19VDC/220VAC; HDMI	19VDC/220VAC; HDMI	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / VGA / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / DP	100-220VAC; HDMI / DVI / VGA / DP
Power (W)	300	<150	<150	<200	<200	<250	<250	<250	<250	<250	<300	<300	<300
Touch Monitor made in	USA	India	India	India	India	India	India	India	India	USA	India	India	USA

Size	26cm (10.4")	38cm (15")	43cm (17")	47cm (18.5")	48cm (19") 4:3	55cm (21.5") wide	58cm (23")	60cm (23.5")	61cm (24")	68cm (27")	80cm (31.5")
Models	104BCxMF Metal 40mm width	150BCxM, 150BCxMF, 150BCxMS, 150BCXT	170BCxM, 170BCxMF, 170BCxMS, 170BTxM	185BCxM	190BCxM, 190BCxMF, 190BCxMS, 190BTxM	215BCxM, 215BCxMF, 215BTxM, 215BTxMF	230BCxM	235BCxM, 235BCxMF	240BCxM, 240BCxMF, 240BTxM	270BCxM, 270BCxMF, 270BCxM-U	320BCxM, 320BCxMF, 320BCxM-U, 320BTxM
Bezel	20mm; (45mm in F & T models)	20mm; (45mm in F models)	20mm; (45mm in F models)	30mm; (50mm in F models)	20mm; (45mm in F models)	20mm; (45mm in F models)	30mm; (50mm in F models)	30mm; (50mm in F models)	30mm; (50mm in F models)	30mm; (50mm in F models)	30mm; (50mm in F models)

## Touch Screen

Touch Points	Single Touch										
Input Method	Finger, or 3M Smart pen.										
Touch Screen	Surface Capacitive										
Touch response time	less than 5.4 ms										
Accuracy	> 99% of True Position										
Light Transmission	greater than 91%										
Touch resolution	16K x 16K with EXII controllers										
Surface Finish	Anti-reflective, easy-glide, ClearTek Hard coat										
Surface scratch	Hardness MoHS 7 or higher to induce a functions failure										
Surface Obstruction	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains										
Chemicals	Resistant to corrosives, as per ASTM D1308-02 & ASTM F-1598-95										
Optional Protection	Front face sealable to Nema 4X / IP65 Front protected from sprays of water										

## Display

Format	4:3	4:3	5:4	16:9	5:4	16:9	16:9	16:9	16:9	16:9	16:9
Display Area (mm)	211 x 158	304 x 228	338 x 270	410 x 256	376 x 302	477 x 268	510 * 287	520 x 293	531 x 299	597 x 336	697 x 392
Pixel Pitch	0.26	0.297	0.264	0.285	0.294	0.248	0.265	0.271	0.277	0.270BCxM: 0.31 270BCxMF: 0.36; 270BCxMU: 0.15	0.51; 320BCxMF: 0.36; 320BCxMU: 0.18
Brightness (cd/m <sup>2</sup> )	200	250	250	250	250	250	250	250	300	300	350
Resolution	800 x600	1024 x 768	1280 x1024	1366x768	1280 x1024	1920 x1080	1920 x1080	1920 x1080	1920x1080	270BCxM: 1920x1080 80 270BCxMF: 3840x2160	320BCxM: 1366x768; 320BCxMF: 1920x1080 320BCxMU: 3840x2160
Viewing Angle	H >120, V >120	H >140, V >140	H >140, V >140	H >140, V >140	H >140, V >140	H178, V178	H >140, V >140	H >140, V >140	H >140, V >140	H178, V178	H >170, V >170

## Processor

Operating System	Standard Win 10 E Optional : Linux / Win 7 Pro										
Processor	Standard Celeron; Optional i3 / i5 / i7										
RAM	Standard: 4 GB; Optional up to 16GB										
Hard Disk	Standard: 120 GB SSD; Optional up to 1TB										
I/O	Standard : 2 x USB, 1xLAN ; Optional :WiFi, Serial Ports, 6 USB, MSR, Scanner										

## Others

Operating Temp	0 - 50° C	0 - 60° C	0 - 50° C Optional 0 to 60°C	0 - 50° C	0 - 50° C Optional 0 to 60°C	0 - 50° C Optional 0 to 60°C	0 - 50° C	0 - 50° C	0 - 50° C	0 - 50° C	0 - 50° C Optional 0 to 60°C
Relative Humidity	85% non-condensing										
Connectors-Power	220VAC	19VDC / 220VAC	220VAC	220VAC	220VAC	19VDC / 220VAC	19VDC / 220VAC	19VDC / 220VAC	19VDC / 220VAC	19VDC / 220VAC	19VDC / 220VAC
Power (W) max	<100	100	100	150	150	100	160	160	160	180	200
Touch PC made in	India	India	India	India	India	India	India	India	India	India	India

# Touch Computer Specifications, Projected Capacitive (small sizes)

<b>Model</b>	150BMxM	170BMxM 170BMxMF	170BMxM-G 170BMxM-GS 170BMxM-IP	185PMUM 185PMUMF	215BMxM 215BMxMF	215BMxM-G, 215BMxM-GS, 215BMxM-IP	240BMxM	270BMxM, 270BMxMF, 270BMxMU	270BMxM-G, 270BMxM-JG, 270BMxM-IP
<b>Display Size</b>	38cm (15")	43cm (17")	43cm (17")	47cm (18.5")	55cm (21.5")	55cm (21.5")	60cm (24" W)	68cm (27"W)	68cm (27"W)
<b>Front Bezel width</b>	Metal 20mm width	Metal 20mm width; (40 in F models)	Flat Glass No bezel, 20mm border	Metal 20mm width; (40 in F models)	Metal 20mm width; (40 in F models)	Flat Glass No bezel, 20mm border	Metal 20mm width; (40 in F models)	Metal 20mm width; (40 in F models)	Flat Glass No bezel, 20mm border
<b>Touch Screen</b>	Up to 10 simultaneous touch points								
<b>Touch Points</b>	Up to 20 simultaneous touch points								
<b>Input Method</b>	Finger, thin gloves, or 3M Smart pen.								
<b>Touch Screen</b>	Projected Capacitive								
<b>Touch response time</b>	less than 12 ms								
<b>Accuracy</b>	Within 1% of True Position								
<b>Light Transmission</b>	greater than 88%								
<b>Surface Finish</b>	Non-active cover glass, no wear mechanism. Anti-reflective								
<b>Surface Obstruction</b>	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains								
<b>Chemicals</b>	Resistant to corrosives, as per ASTM D1308-07 & ASTM F-1598-95								
<b>Protection</b>	Front face sealable to Nema 4X / IP65 Front protected from sprays of water								
<b>Display</b>									
<b>Format</b>	4:3	5:4	5:4	16:9	16:9	16:9	16:9	16:9	16:9
<b>Display Area (mm)</b>	304 x 228	338 x 270	338 x 270	410 x 256	476 x 268	476 x 268	527 x 296	597 x 336	597 x 336
<b>Pixel Pitch</b>	0.297	0.264	0.264	0.285	0.248	0.248	0.27	0.27	0.27
<b>Brightness (cd/m<sup>2</sup>)</b>	350	250	250	250	250	250	300	300	300
<b>Resolution</b>	1024x768	1280x1024	1280x1024	1366x768	1920x1080	1920x1080	1920x1080	1920x1080	270BMxM / F / G; 0.31 270BMxM-J / UG / IP: 0.15
<b>Viewing Angle</b>	H > 140, V > 140	H > 140, V > 140	H > 140, V > 140	H > 140, V > 140	H178, V178	H178, V178	H > 170, V > 170	H178, V178	H178, V178
<b>Processor</b>	Standard Win 10 E ; Optional : Win 8/Win 7/Linux/Android								
<b>Operating System</b>	Standard Celeron; Optional i3 / i5 / i7								
<b>Processor</b>	Standard: 4 GB; Optional up to 16GB								
<b>RAM</b>	Standard: 120 GB SSD ; Optimal up to 1TB								
<b>Hard Disk</b>	Standard : 2 x USB, 1xLAN ; Optional :WiFi, Serial Port, 6 USB, MSR, BarcodeScanner								
<b>I/O</b>									
<b>Others</b>									
<b>Operating Temp</b>	0 - 60° C	Standard 0 - 50° C;		Standard 0 - 50° C;		0 - 50° C		Standard 0 - 50° C;	
<b>Relative Humidity</b>	85% non-condensing								
<b>Power / Connectors</b>	19VDC / 220VAC								
<b>Power (W)</b>	100	100	100	150	<150	<150	<160	<180	<180
<b>Touch PC made in</b>	India	India	India	India	India	India	India	India	India

# Touch Computer Specifications, Projected Capacitive (large sizes)

<b>Model</b>	320BMxM, 320BMxM-F, 320BMxM-U	320BMxM-G, 320BMxM-LG, 320BMxM-IP	430BMxM	460BMxM, 460BMxM-F, 460BMxM-U	460BMxM-G, 460BMxM-LG, 460BMxM-IP	550BMxM, 550BMxM-U	550BMxM-G, 550BMxM-UG, 550BMxM-GS, 550BMxM-UB	550BMxM-B, 550BMxM-UB	650BMxM, 650BMxM-U
<b>Display Size</b>	80cm (31.5")	80cm (31.5")	107cm (42.5")	117cm (46")	117cm (46")	139cm (55")	139cm (55")	139cm (55")	165cm (65")
<b>Front Bezel width</b>	Metal 30mm; (50 in F models)	Flat Glass No bezel, 20mm border	Metal, 45mm	Metal, 45mm	Flat Glass No bezel, 30mm border	Metal, 45mm	Flat Glass No bezel, 30mm border	Flat Glass No bezel, 30mm border	Flat Glass No bezel, 45mm border
<b>Touch Screen</b>									
<b>Touch Points</b>	Up to 40 simultaneous touch points								
<b>Input Method</b>	Finger, thin gloves, or 3M Smart pen.								
<b>Touch Screen</b>	Projected Capacitive								
<b>Touch response time</b>	less than 12 ms								
<b>Accuracy</b>	Within 1% of True Position								
<b>Light Transmission</b>	greater than 88%								
<b>Surface Finish</b>	Non-active cover glass, no wear mechanism. Anti-reflective								
<b>Surface Obstruction</b>	Not affected by surface contaminants like dust, grease, moisture, liquids, paan stains								
<b>Chemicals</b>	Resistant to corrosives, as per ASTM D1308-07 & ASTM F-1598-103								
<b>Protection</b>	Front face sealable to Nema 4X / IP65 Front protected from sprays of water								
<b>Display</b>									
<b>Format</b>	wide	wide	wide	wide	wide	wide	wide	wide	wide
<b>Display Area (mm)</b>	697 x 392	697 x 392	941 x 529	1018x572	1018x572	1210x680	1210x680	1210x680	1428x803
<b>Pixel Pitch</b>	320BMxM / F / G : 0.36 320BMxM-U / UG / IP : 0.18	320BMxM / F / G : 0.36 320BMxM-U : 0.245	430BMxM: 0.49 430BMxM-U: 0.245	460BMxM / F / G / GS: 0.53 460BMxM-U / UG / UGS / IP : 0.27	460BMxM / F / G / GS: 0.53 460BMxM-U / UG / UGS / IP : 0.27	550BMxM / G / GS / B : 0.63 550BMxM / UG / UGS / UB: 0.32	550BMxM / G / GS / B : 0.63 550BMxM / UG / UGS / UB: 0.32	550BMxM / G / GS / B : 0.63 550BMxM / UG / UGS / UB: 0.32	650BMxM: 0.74 650BMxM-U: 0.37
<b>Brightness (cd/m<sup>2</sup>)</b>	250	250	350	Standard 700; Optional 1000-1500	Standard 700; Optional 1000-1500	350	350	750	450
<b>Resolution</b>	320BMxM / F / G : 1920x1080 320BMxM-U / UG / IP : 3840x2160	320BMxM / F / G : 1920x1080 320BMxM-U / UG / IP : 3840x2160	1920 x 1080	460BMxM / F / G / GS: 1920x1080 460BMxM-U / UG / UGS / IP : 3840x2160	460BMxM / F / G / GS: 1920x1080 460BMxM-U / UG / UGS / IP : 3840x2160	550BMxM / G / GS / B : 1920x1080 550BMxM / UG / UGS / UB : 3840x2160	550BMxM / G / GS / B : 1920x1080 550BMxM / UG / UGS / UB : 3840x2160	550BMxM / G / GS / B : 1920x1080 550BMxM / UG / UGS / UB : 3840x2160	650BMxM : 1920x1080 650BMxM-U : 3840x2160
<b>Viewing Angle</b>	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170	H > 170, V > 170
<b>Processor</b>									
<b>Operating System</b>	Standard Win 10 E ; Optional : Win 8/Win 7/Linux/Android								
<b>Processor</b>	Standard i3; Optional : i5 / i7								
<b>RAM</b>	Standard: 4 GB; Optional up to 16GB								
<b>Hard Disk</b>	Standard: 120 GB SSD ; Optinal up tp 1TB								
<b>I/O</b>	Standard : 2 x USB, 1xLAN ; Optional :WiFi, Serial Port, 6 USB, MSR, Scanner								
<b>Others</b>									
<b>Operating Temp</b>	Standard 0 - 50° C; Optional 0 - 60° C								
<b>Relative Humidity</b>	85% non-condensing								
<b>Power / Connectors</b>	19VDC / 220VAC								
<b>Power (W)</b>	<200	<200	<250	<400	<400	500	500	700	600
<b>Touch PC made in</b>	India								



Distinguished Visitors



Spacious Offices



Burn-in Tests





Easily Accessible Location



Extensive Quality Control



 /PalasSoftware

 /user/palassoftware1

## PALAS Software Pvt Ltd.

S-74 Okhla Industrial Area Phase 2, New Delhi 110020 INDIA

Web: <http://www.palas-india.com>

Landline: +91-11-41708030 to 37; Mobile: +91-9811001546 to 52; WhatsApp: +91-98110 01546 Email: [sales@palas-india.com](mailto:sales@palas-india.com)

For more information, as many of us are presently working from home, contact any of:

North: 80950-48512; 98110-01546 / 47 / 50 / 52; 98110-67817; South: 98110-01546 / 01548 West: 98110-01546