

# Explore Hitachi's Human Machine Interfaces

The best solutions for every application



## EH-TPS Series

The entrance HMI model has been optimized and designed for budget critical applications and comes with a lightweight and low-power design.

Hitachi's human machine interface series EH-TPS enables as the easiest way of interaction between operator and machine. The EH-TPS allows the visualization of the machine status, monitoring of real-time data and of course the interactive controlling by an operator in front a control cabinet.



### HIGHLIGHTS

- Display Size 4.3", 7" and 10.1"
- 16:9 Widescreen Display with a resistive touchscreen
- Powerful ARM Cortex CPU and Linux operating system
- Brilliant Display with a dimmable LED Backlight
- Programmable with the object oriented HiMobile Studio
- Built-in Ethernet, USB and Serial Port
- Lightweight and Low-power Design
- Highly reliable, Industrial Grade Components





## Technical Information

		<b>EH-TPS04</b>	<b>EH-TPS07</b>	<b>EH-TPS10</b>
<b>System Resources</b>	<b>Display – Colors</b>	4.3" TFT 16:9 - 64K	7" TFT 16:9 - 64K	10,1" TFT 16:9 - 64K
	<b>Resolution</b>	480x272	800x480, WVGA	1024x600, WVGA
	<b>Brightness</b>	200 Cd/m2 typ.	200 Cd/m2 typ.	200 Cd/m2 typ.
	<b>Dimming</b>	Yes	Yes	Yes
	<b>Touchscreen</b>	Resistive	Resistive	Resistive
	<b>CPU</b>	ARM Cortex-A8 - 300 MHz	ARM Cortex-A8 - 1 GHz	ARM Cortex-A8 - 1 GHz
	<b>Operating System</b>	Linux 3.12	Linux 3.12	Linux 3.12
	<b>Flash</b>	2 GB	4 GB	4 GB
	<b>RAM</b>	256 MB	512 MB	512 MB
	<b>RTC Back-up, Buzzer</b>	Yes	Yes	Yes
<b>Interface</b>	<b>Ethernet port</b>	1 (port 0 - 10/100)		
	<b>USB port</b>	1 (Host v. 2.0, max. 500 mA)		
	<b>Serial port</b>	1 (RS-232, RS-485, RS-422, software configurable)		
<b>Ratings</b>	<b>Power supply</b>	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)
	<b>Current Consumption</b>	0.25 A max. at 24 VDC	0.3 A at 24 VDC (max.)	0.38 A at 24 VDC (max.)
	<b>Input Protection</b>	Automatic		
	<b>Battery</b>	Yes (Supercapacitor)		
<b>Environment Conditions</b>	<b>Operating Temp</b>	0 to 50 °C (vertical installation)		
	<b>Storage Temp</b>	-20°C to +70°C		
	<b>Operating / Storage Humidity</b>	5-85% RH, non condensing		
	<b>Protection Class</b>	IP66, Type 2 and 4X (front); IP20 (rear)		
<b>Dimensions and Weights</b>	<b>Faceplate L x H</b>	147x107 mm	187x147 mm	282x197 mm
	<b>Cutout AxB</b>	136x96 mm	176x136 mm	271x186 mm
	<b>Weight</b>	Approx 0.4 Kg	Approx 0.6 Kg	Approx 1.0 Kg
<b>Approval</b>	CE			

## EH-TP500 Series

High-end visualization with innovative design and excellent performance by using the EH-TP500 series. Usable for a broad range of applications in various industry fields.

The EH-TP500 series stands for a robust, innovative design in a metal housing. Focussing on functional and performance aspects is this series a good choice in terms of visualisation, monitoring and controlling an application on-site or from a remote location. Available display sizes up to 15 inches fit to the most diverse requirements of industrial customers.



### HIGHLIGHTS

- Display Size 4.3", 7", 10.4", 13.3" and 15"
- 4:3 Widescreen Display with a resistive touchscreen
- Powerful ARM Cortex CPU and WinCE operating system
- OPC UA Server and Client capability to meet IIOT demands
- Bright Display up to 300Cd/m<sup>2</sup> with a dimmable LED Backlight
- Programmable with the object oriented HiMobile Studio
- Interface options up to 2x Ethernet, 2xUSB and Serial Port
- Offers a wide range of communication capabilities



## Technical Information

	EH-TP504	EH-TP507	EH-TP510	EH-TP513	EH-TP515	
<b>System Resources</b>	<b>Display – Colors</b>	4.3" TFT 16:9 LED - 64K	7" TFT 16:9 LED - 64K	10"4 TFT LED - 64K	13"3 TFT 16:9 LED - 64K	15" TFT LED - 64K
	<b>Resolution</b>	480x272, WQVGA	800x480, WVGA	800x600, SVGA	1280x800, WXGA	1024x768, XGA
	<b>Brightness</b>	150 Cd/m <sup>2</sup> typ.	300 Cd/m <sup>2</sup> typ.	300 Cd/m <sup>2</sup> typ.	300 Cd/m <sup>2</sup> typ.	300 Cd/m <sup>2</sup> typ.
	<b>Dimming</b>	to 0 %				
	<b>Touchscreen</b>	Resistive				
	<b>CPU</b>	ARM Cortex-A8 - 600 MHz		ARM Cortex-A8 - 1 GHz		
	<b>Operating System</b>	Microsoft Windows CE 6.0	Microsoft Windows CE 6.0	Microsoft Windows CE 6.0	Microsoft Windows CE 6.0	Microsoft Windows CE 6.0
	<b>Flash</b>	128 MB	128 MB	256 MB	256 MB	256 MB
	<b>RAM</b>	256 MB DDR	256 MB DDR	256 MB DDR	256 MB DDR	256 MB DDR
	<b>RTC Back-up, Buzzer</b>	Yes	Yes	Yes	Yes	Yes
<b>Interface</b>	<b>Ethernet port</b>	2 (port 0 - 10/100, port 1 - 10/100) with integrated Switch				
	<b>USB port</b>	1 (port 1 - Host V2.0)	2 (port 1 - Host V2.0, port 2 - Host V2.0/1.1)			
	<b>Serial port</b>	1 (RS-232, RS-485, RS-422, software configurable)				
	<b>SD Card</b>	Yes				
	<b>LED</b>	1 RGB				
	<b>Expansion</b>	1 slot for plug in modules	2 slot for plug in modules			
<b>Ratings</b>	<b>Power supply</b>	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)
	<b>Current Consumption</b>	0.55 A at 24 VDC (max.)	0.7 A at 24 VDC (max.)	1 A at 24 VDC (max.)	1.15 A at 24 VDC (max.)	1.25 A at 24 VDC (max.)
	<b>Battery</b>	Rechargeable Lithium battery, not user-replaceable				
<b>Environment Conditions</b>	<b>Operating Temp</b>	0 to +50 °C				
	<b>Storage Temp</b>	-20 to +70 °C				
	<b>Operating / Storage Humidity</b>	5-85% RH, non condensing				
	<b>Protection Class</b>	IP66 (front), IP20 (rear)				
<b>Dimensions and Weights</b>	<b>Faceplate L x H</b>	147x107 mm	187x147 mm	287x232 mm	336x267 mm	392x307 mm
	<b>Cutout AxB</b>	136x96 mm	176x136 mm	276x221 mm	326x256 mm	381x296 mm
	<b>Weight</b>	Approx 1.0 Kg	Approx 1.0 Kg	Approx. 2.1 Kg	Approx. 2.8 Kg	Approx 3.5 Kg
<b>Approval</b>	CE					



## EH-TPJ Series

The new EH-TPJ field device series is Hitachi's answer to critical applications and for customers IoT demands. Best choice in terms of installation flexibility.

The new EH-TPJ field device series is Hitachi's answer to critical applications and for customers IoT demands. High-resolution displays with multitouch PCAP touchscreen, a robust glass front, full IP67 protection and extended operating temperature range just to highlight some of the product advantages. IoT device with Power over Ethernet (PoE) and an adjusted panel design enables installation flexibility. Mounting on the machine allows an easy interaction of operator and machine. Integrated OPC UA Client / Server with an internal storage up to 2 GB allows data storage and processing of variables according to the customer needs.



### HIGHLIGHTS

- Display sizes 7", 10,1", 15,6" and 21,5"
- Up to full HD resolution 1920 × 1080 pixel with 16 M colours and dimmable backlight
- PCAP touch screen with multitouch allows gesture control (swipe & zoom)
- Robust glass front and extended operating temperature range between -20 °C and +55 °C
- Full IP67 for installation at harsh environment applications
- Integrated OPC UA Client / Server for data handling and IIOT demands
- Wi-Fi Connectivity



## Installation Flexibility

Depending on the customer or the application demands allows the EH-TPJ series the usage as a standalone device mounted directly close to the machine operating area or the classic installation on a control cabinet.



## Power over Ethernet Technology

Power over Ethernet led to reduced wiring effort in your electrical cabinet. An existing Ethernet infrastructure enables the easy integration of this series into the customer application without the needs for a separate power supply.



## Wireless network compatibility

In today's world, wireless communication creates a multitude of possibilities. The whole EH-TPJ series supports the wi-fi connectivity according to the IEEE 802.11 standard.



## Accessories

### Wall & Device Brackets

Device Bracket  
EH-HDBJ0710

Wall Bracket  
EH-HDBJ1521/-WBJ

for EH-TPJ07 & EH-TPJ10

Wall Bracket  
EH-HDBJ1521/-WBJ

for EH-TPJ15 & EH-TPJ21

### VESA Bracket

VESA Bracket  
EH-HVESABJ

for EH-TPJ07, EH-TPJ10, EH-TPJ15, EH-TPJ21

### Gooseneck

Gooseneck  
EH-HGNJ0710

for EH-TPJ07 & EH-TPJ10

### PoE Injector

PoE Injector for Din Rail mounting  
EH-HPOE

### PoE Ethernet Cable

PoE Ethernet Cable 5m with M22 gland  
EH-H50JH

### PoE Ethernet & USB Cable

PoE Ethernet Cable 5m & USB Cable 1m  
with M22 gland  
EH-H50J10





## Technical Information

	<b>EH-TPJ07</b>	<b>EH-TPJ10</b>	<b>EH-TPJ15</b>	<b>EH-TPJ21</b>	
<b>System Resources</b>	<b>Display – Colors</b>	7" TFT – 16M	10.1" TFT – 16M	15.6" TFT – 16M	21.5" TFT – 16M
	<b>Resolution</b>	1024 × 600	1280 × 800	1366 × 768	1920 × 1080
	<b>Brightness</b>	400 cd/m <sup>2</sup> typ.	400 cd/m <sup>2</sup> typ.	400 cd/m <sup>2</sup> typ.	400 cd/m <sup>2</sup> typ.
	<b>Dimming</b>	to 0%	to 0%	to 0%	to 0%
	<b>Touchscreen</b>	Projected capacitive – Multitouch	Projected Capacitive – Multitouch	Projected Capacitive – Multitouch	Projected Capacitive – Multitouch
	<b>CPU</b>	ARM Cortex-A9 dual core – 800 MHz	ARM Cortex-A9 dual core – 800 MHz	ARM Cortex-A9 quad core – 800 MHz	ARM Cortex-A9 quad core – 800 MHz
	<b>Operating System</b>	Linux RT	Linux RT	Linux RT	Linux RT
	<b>Flash</b>	4 GB	4 GB	8 GB	8 GB
	<b>RAM</b>	1 GB	1 GB	2 GB	2 GB
	<b>FRAM</b>	64 KB	64 KB	64 KB	64 KB
	<b>Real Time Clock, RTC Back-up</b>	Yes	Yes	Yes	Yes
<b>Interface</b>	<b>Ethernet port</b>	10/100 PoE			
	<b>USB port</b>	1 (Host V2.0, max. 500 mA, available with special cable)			
	<b>LED</b>	1 RGB			
	<b>Sensors</b>	Temperature, 3-Axis Accelerometer			
	<b>Wi-Fi</b>	IEEE 802.11a/b/g			
	<b>Buzzer</b>	Yes			
<b>Ratings</b>	<b>Power supply</b>	IEEE 802.3af PoE	IEEE 802.3af PoE	IEEE 802.3at PoE+	IEEE 802.3bt 4PPoE
	<b>Power Consumption</b>	9 W	12 W	19 W	32 W
	<b>Battery</b>	Yes (rechargeable)			
<b>Environment Conditions</b>	<b>Operating Temp</b>	–20 °C to +55 °C (vertical installation)			
	<b>Storage Temp</b>	Storage Temp –30 °C to +80 °C			
	<b>Operating /Storage Humidity</b>	5–85 % RH, non-condensing			
	<b>Protection Class</b>	IP67 (requires appropriate accessories and cables)			
<b>Dimensions and Weights</b>	<b>Faceplate L × H</b>	195.2 × 131.6 mm	264.5 × 183.1 mm	398.6 × 248 mm	534.1 × 325.6 mm
	<b>Weight</b>	0.7 kg	1.2 kg	4.0 kg	6.0 kg
<b>Approval</b>	CE				

## EH-TP700 Series

The advanced and sophisticated EH-TP700 series is the best choice in terms of performance, functionality as well as visual and haptic aspects without making any compromises.

True glass front with a projected capacitive display and multitouch technology for gesture control supported by a high-performance ARM Cortex-A9 dual core enables also controlling and visualization of big sized applications.



### HIGHLIGHTS

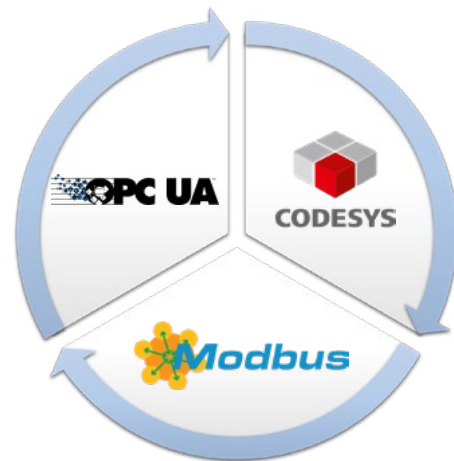
- Display sizes 7", 10,1", 15,6" and 21,5"
- Up to full HD resolution 1920 × 1080 pixel with 16 M colours and dimmable backlight
- PCAP touch screen with multitouch allows gesture control (swipe & zoom)
- Up to three independent ethernet interfaces
- Robust glass front and extended operating temperature range between -20 °C and +60 °C
- Integrated OPC UA Client / Server for data handling and advanced IIOT demands
- Data transfer between different communication protocols
- Supports OPC UA, Modbus, CODESYS V3 ETH and Siemens S5 / S7 communication protocols



OPC UA Server and Client functionality and the built-in support of various MQTT Broker using the MQTT protocol facilitates the usage of the EH-TP700 series within various IIoT solution.



Utilizing up to three independent working ethernet ports with individual communication protocol setting allows the data exchange between these protocols

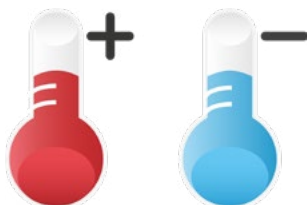






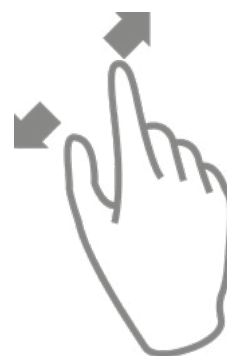
### Extended Environmental Condition

The EH-TP700 series series fulfil the expectations for harsh environmental conditions. An extended temperature operating range between  $-20\text{ }^{\circ}\text{C}$  and  $+60\text{ }^{\circ}\text{C}$ , IP66 rating in the front and a display brightness up to  $500\text{ Cd/m}^2$ .



### Multitouch Technology

Advanced multitouch technology enables gesture control such as swipe and zoom.



### Advanced interface capability

The entire EH-TP700 series series comes with three built-in independent working ethernet ports to enable gigabit lan connectivity.





## Technical Information

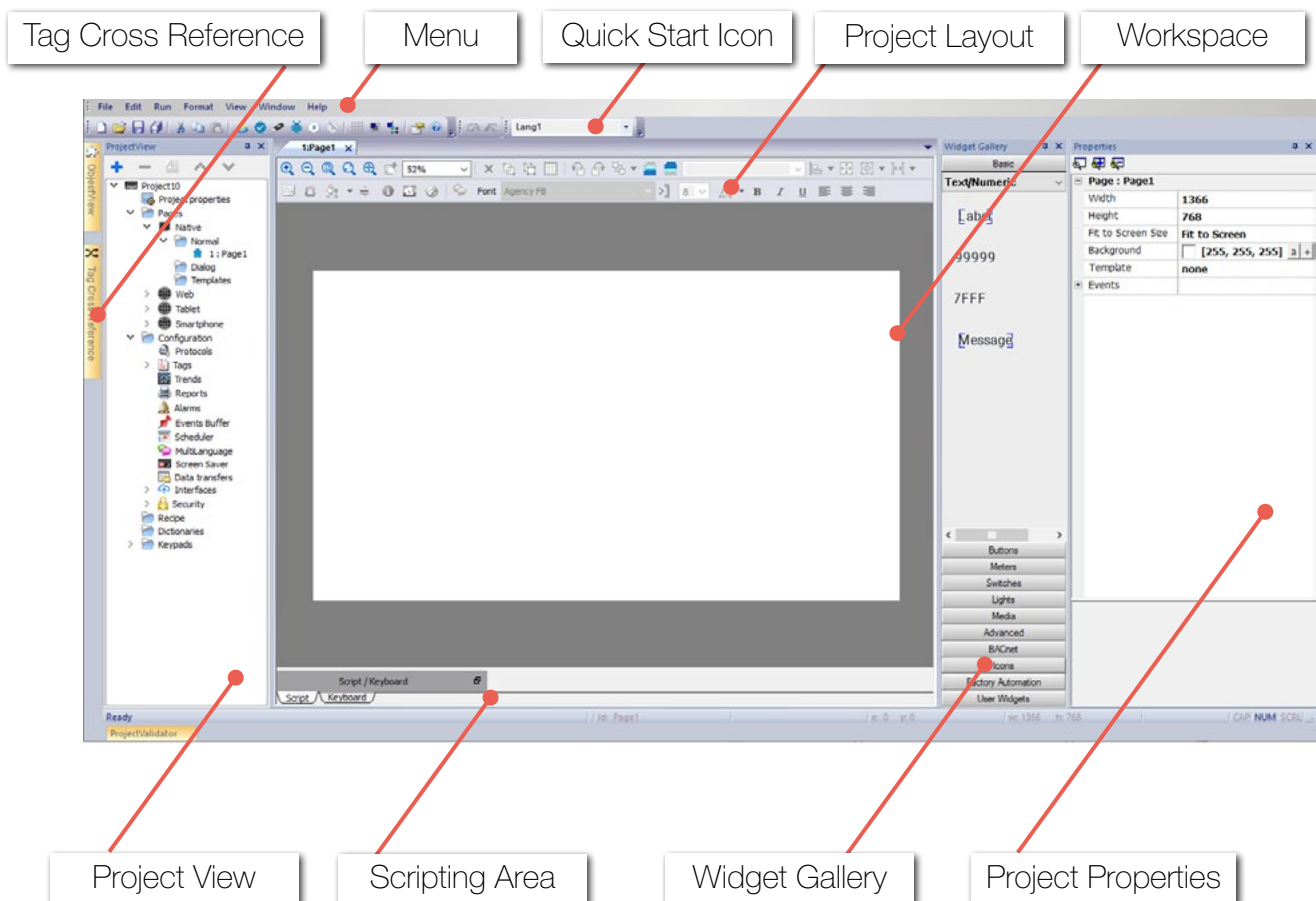
	<b>EH-TP707</b>	<b>EH-TP710</b>	<b>EH-TP715</b>	<b>EH-TP721</b>	
<b>System Resources</b>	<b>Display – Colors</b>	7" TFT 16:9 LED - 16M	10.1" TFT 16:9 LED - 16M	15,6" TFT LED - 16M	21,5" TFT LED - 16M
	<b>Resolution</b>	800x480, WVGA	1280x800, WXGA	1366x768, HD	1920x1080, full HD
	<b>Brightness</b>	500 Cd/m2 typ.	500 Cd/m2 typ.	400 Cd/m2 typ.	300 Cd/m2 typ.
	<b>Dimming</b>	to 0%	to 0%	to 0%	to 0%
	<b>Touchscreen</b>	True Glass Projected Capacitive, Multitouch	True Glass Projected Capacitive, Multitouch	True Glass Projected Capacitive, Multitouch	True Glass Projected Capacitive, Multitouch
	<b>CPU</b>	ARM Cortex-A9 dual core 800 MHz	ARM Cortex-A9 dual core 800 MHz	ARM Cortex-A9 dual core 800 MHz	ARM Cortex-A9 dual core 800 MHz
	<b>Operating System</b>	Linux RT	Linux RT	Linux RT	Linux RT
	<b>Flash</b>	4 GB	4 GB	8 GB	8 GB
	<b>RAM</b>	1 GB	1 GB	2 GB	2 GB
	<b>RTC Back-up, Buzzer</b>	Yes	Yes	Yes	Yes
<b>Interface</b>	<b>Ethernet port</b>	3 (port 0 - 10/100/1000, port 1 - 10/100, port 2 - 10/100)			
	<b>USB port</b>	RTC Back-up, Buzzer			
	<b>Serial port</b>	1 (RS-232, RS-485, RS-422, software configurable)			
	<b>SD Card</b>	Yes			
	<b>LED</b>	1 RGB			
<b>Ratings</b>	<b>Power supply</b>	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)	24 VDC (10 to 32 VDC)
	<b>Current Consumption</b>	0.7 A at 24 VDC (max.)	1.0 A at 24 VDC (max.)	1.2 A at 24 VDC (max.)	1.7 A at 24 VDC (max.)
	<b>Input Protection</b>	Electronic			
	<b>Battery</b>	Rechargeable Lithium battery, not user-replaceable			
<b>Environment Conditions</b>	<b>Operating Temp</b>	-20° to +60 °C (vertical installation). USB devices may limit max temperature to +50 °C.			
	<b>Storage Temp</b>	-20°C to +70°C			
	<b>Operating / Storage Humidity</b>	5-85% RH, non condensing			
	<b>Protection Class</b>	IP66 (front), IP20 (rear)			
<b>Dimensions and Weights</b>	<b>Faceplate L x H</b>	187x147 mm	264.5 x 183.1 mm	398.6 x 248 mm	534.1 x 325.6 mm
	<b>Cutout Ax B</b>	176x136 mm	271x186 mm	411x256 mm	541x336 mm
	<b>Weight</b>	1.5 Kg	2.5 Kg	4.1 Kg	6.1 Kg
<b>Approval</b>	CE				

# HiMobile Software

HiMobile is an extremely flexible software and can be used across a wide variety of diverse applications and industries due to an extensive selection of symbols, widgets and advanced functions.

## HIGHLIGHTS

- One software platform for all Hitachi's HMI series
- Four available languages English, German, French, Chinese
- User friendly & intuitive programming layout
- Easy set-up of OPC-UA Server/client communication
- MQTT Client configuration with predefined MQTT Broker list
- HiMobile Client software for remote connectivity
- Integrated On- and Offline simulation to expedite project validation

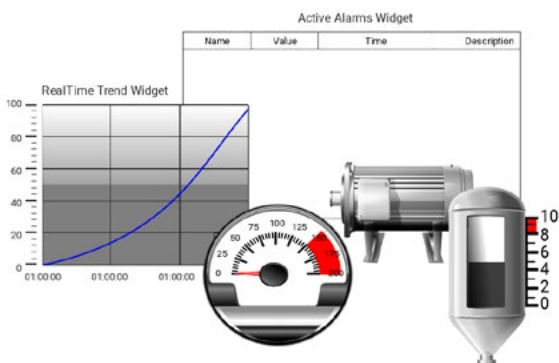






## Ease-of-use Widget Gallery

Predefined widgets such as basic buttons, switches or light as well as industry icon widget such as valves, tank or mixers can be used to integrate into the project.



## JavaScripting functionality

Projects can be enhanced through utilizing and implementing individual java scripts.

```

1
2 function demo_mode_OnAction(me, eventInfo) {
3
4   var state = new State();
5   var dc = project.getIag("demo_count", state, 0);
6   dc=dc+1;
7   project.setTag("demo_count", dc);
8
9   switch(dc)
10  {
11    case 1:
12      project.setTag("valve1", 1);
13      project.setTag("valve2", 0);

```

**JAVASCRIPT**

## Web Access through HTML5 Technology

With HTML5 and JavaScript technology embedded in HiMobile, all that is needed to remotely monitor and control applications is a web browser with HTML5 support.





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