

# SMARTpanel

A Revolutionary Peripheral Device... SmartPanel  
An Ergonomic Operator Interface and So Much More...

Daifuku has developed the SmartPanel to enhance the functionality of its Automatic Guided Vehicle (AGV) product lines. The SmartPanel is a touch-screen interface for operators with options for I/O and integration that make it a revolutionary development to simplify the implementation of AGV systems.

### PRIMARY FEATURES:

**Economical** – Using industrial proven hardware, SmartPanels are an affordable HMI (Human Machine Interface) while providing vital functionality. While SmartPanel software can be set up quickly and easily.

**Ergonomic** – SmartPanels can be installed within easy reach of personnel to reduce ergonomic stress and increase productivity.

OPTIONS:

- Screen size: 3.5" or 5.7"
- Add: 20 Inputs / 10 Outputs
- Add: 802.11a/b/g Radio

### INTEGRATION:

SmartPanel has two distinct methods of integration:

**Integrated** with our System Automation Manager (SAM) software, SmartPanel gives operators an ergonomic interface to interact with system controls and brings I/O interaction to the SAM system.

**Standalone** piece of equipment that interacts directly with SmartCart AGCs (automatic guided carts) to perform functions without the need for a SAM system.

## SAM Integration with SmartPanel

SmartPanels can be integrated with up



to 127 AGCs and existing plant controls. SmartPanels eliminate the need for centralized controls and allow quick system deployment, making initial deployment fast and future modifications simple.

**System Input and Output Connectivity – Deploying I/O in an AGV system is one of the most costly tasks in implementing an AGV system. The introduction of Smart-Panel and optional I/O with standardized SAM functions dramatically simplifies this task. The HMI also offers Maintenance Personnel the ability to view status of I/O for improved troubleshooting.**

FUNCTIONS:

**Remote Call** – This button allows the designer to designate a location where a vehicle will become available to be called from and designate the destination where the vehicle will go. The button indicates that the vehicle is in transit and when the vehicle has arrived at the intended location.

**Remote Release** – A button of this type allows the operator to indicate to SAM when it is okay for a vehicle to leave a station. For example, an operator would press the button when work is complete, so the vehicle would proceed to the next station in an assembly line.

**Remote Destination** – This button has several modes of operation. Two modes work similar to Remote Call, but have different status text to express a different nature of the vehicles movement. A third mode can optionally respond to an input from an external source.

**Smart Release** – This button can optionally interact with the operator and be used to interact with I/O on the SmartPanel. An example of use of this button would be the interaction of an Aisle Crossing Light and pressing the button would enable the crossing.

# SMARTPANEL

## Standalone use with SmartCart AGCs

SmartPanels can communicate directly with up to 10 AGCs, directing them to perform the following standard functions. This functionality is exclusive to SmartCart AGCs.

## REQUIREMENTS for Standalone use of SmartPanels with AGCs:

- 802.11 option on AGCs
- 802.11 Autonomous Access Point network coverage of AGC path
- Networked access of SmartPanels to AGCs

**Note:** lightweight access point networks can be problematic. Known issues include bridging Ethernet communication from SmartPanel to AGC HMI over wireless.

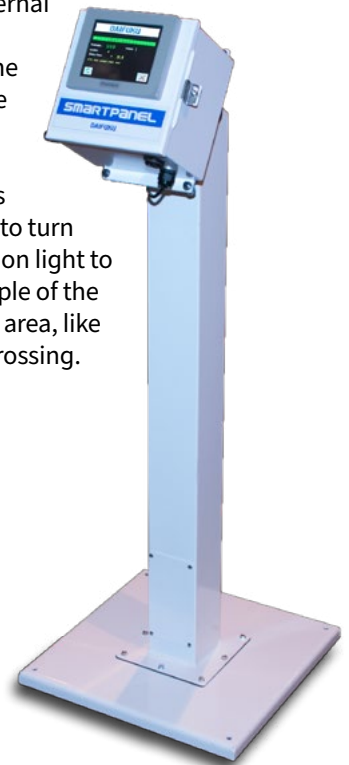
## FUNCTIONS:

**AGC Inquiry** – All AGCs can be queried for current location and activity, including errors and condition status.

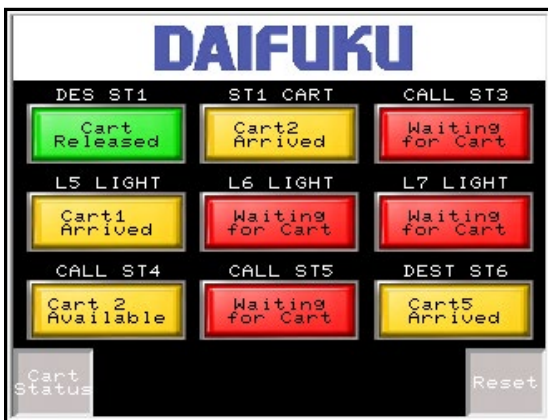
**Set Destination** – This button allows declaration of a location where an AGC can be given a new destination. An example use of this style button would be to dispatch an AGC to leave a location and go to a delivery point. SmartPanels with I/O allow the augmentation of the screen button with a discrete input, an example input would be a physical pushbutton wired to the Smart-Panel.

**Call to Station** – A button of this type allows the designer to declare a list of locations where an AGC is available to be assigned work and pressing the button sets the configured destination. If more than one AGC is available the selection can be made FIFO or by location priority.

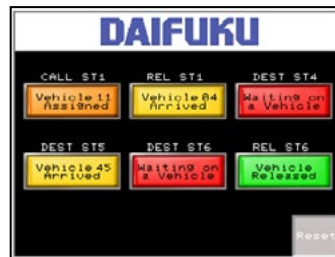
**AGC Present /Output Signal** – This button lights up based on an AGC being in a set of locations and the designer has the option on an I/O equipped panel to turn on an external output to warn of the AGC in the area. A common use of this feature is to turn on a caution light to warn people of the AGC in an area, like an aisle crossing.



Panels Shown at Approximately 50% Actual Size



9 Button Panel Configuration 5.7"



6 Button Panel Configuration 3.5"

## Specifications

### Panel Dimensions (mm)

Basic	W: 8" (203) H: 8" (203) D: 6" (152)
With I/O and/or Radio	W: 12" (304) H: 14" (355) D: 6" (152)
Power Cord	NEMA 5-15 – 5'
Power Supply	Input 85-264VAC Single Phase
Basic	IN: 0.5A@120VAC, OUT: 24VDC 1.25A
With I/O and/or Radio	IN: 1.7A@120VAC, OUT: 24VDC 4.2A

### HMI Display (option)

3.5" Proface	6 Function Buttons
5.7" Proface	9 Function Buttons
Inputs / Outputs (option)	20 Inputs / 10 Outputs, on terminal strip
Communication (option)	802.11a/b/g, 3 dB gain diversity antennas
External Ethernet Plug	Provided on non-radio panels
HMI 3.5" no I/O	Proface #PFXGM4201TAD
HMI 5.7" no I/O	Proface #PFXGM4301TAD
HMI 3.5" with I/O	Proface #PFXLM4201TADDC
HMI 5.7" with I/O	Proface #PFXLM4301TADDC
Pedestal	Sold separately

# DAIFUKU

30100 Cabot Drive  
Novi, MI 48377  
(248) 553-1000 • FAX (248) 553-1200  
info@Daifukuna.com  
www.Daifuku.com

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