

ORION “touch”

Preliminary information

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ORION "touch" – Roadmap to Launch

Topics:

- ORION evolution
- Why “facelift”
- What is new
- Compatibility



2003

2007

2012

2015

2016/2017



PSC 3 "g2"
ID:A1
ID:A5
ID:B7



PSC 3, the first release



ORION ID:A1
TPS1020023A



ORION ID:B1
TPS1020025A



ORION ID:E1
TPS1020028A
CE, CB, UL



ORION ID:C1
TPS1020026A



ORION ID:F1
TPS1020029A

CE, CB, UL



ORION ID:D1
TPS1020027A



ORION ID:G1
TPS1020030A
CE, CB, UL



Why "facelift"

"Telecom Power world" gets connected to "IT world"



Connection to IT world 1(2)

In the past:

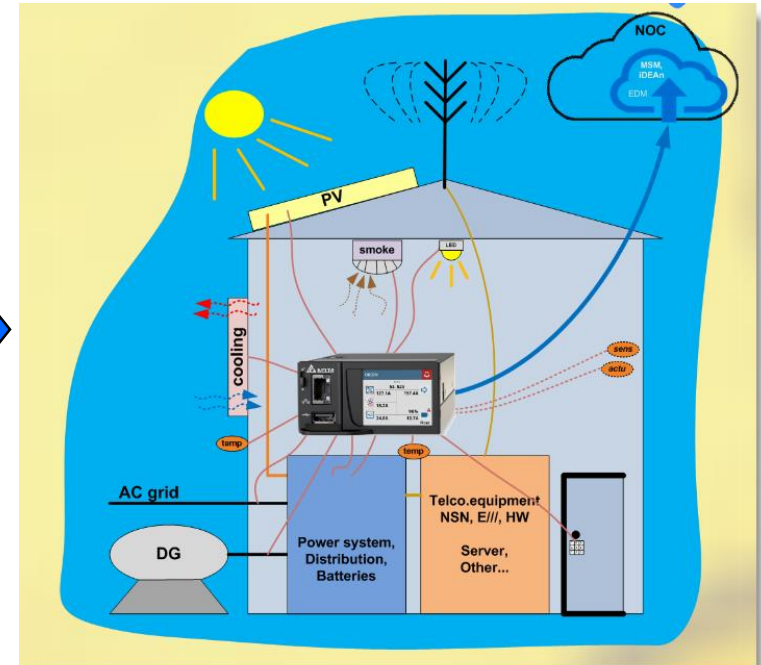
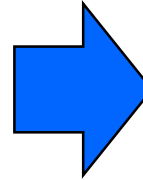
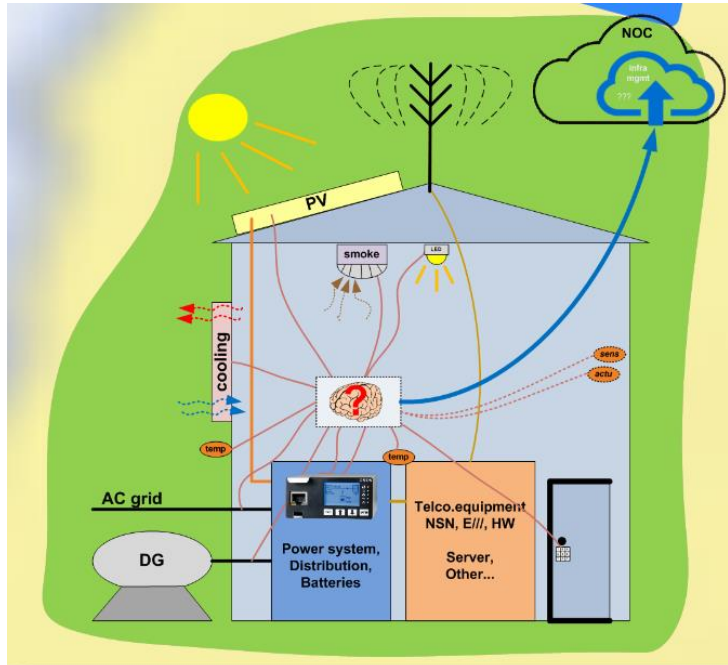
- Once installed, up and running, no need for further enhancements on controller until telecom-site went EOL
- Many customers approved only a certain SW version and did not allow using the latest software

New situation:

- "IT rules" come on top of the old requirement
- Compliance to latest network technology
 - IPv6
 - Gigabit LAN
- When the power systems are connected to IT network, same security is required as for other items
 - Security updates
 - Secure protocols

Connection to IT world 2(2)

- From “Power System Controller” to “Site Manager” to be the link towards the cloud services



What is new? 1(3)

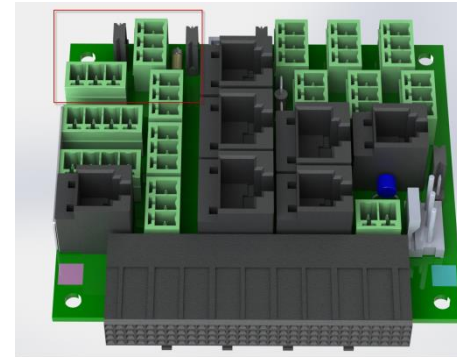
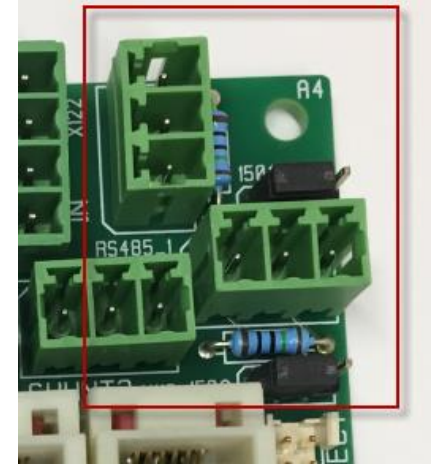
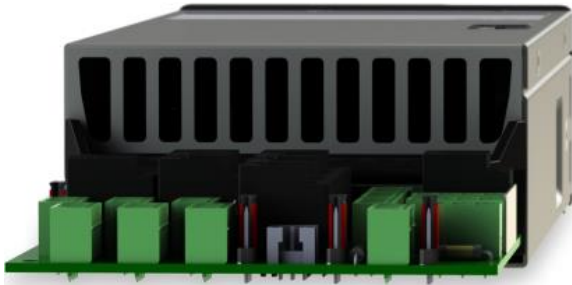
A family of controllers with a new industrial design to support our brand image

- Increased processing power and memory space with 25% less power consumption
 - The benefit:
 - Capacity for future enhancements related to communication protocols, network security, data encryption etc.
 - "Futureproof"
 - Technical spec:
 - Main Processor: Texas Instruments AM3352BZCZD80 (Cortex A8)
 - Data acquisition: STM32F051C8T6TR (Cortex M0)
 - RAM: 256 Mbyte DDR3
 - Flash: 2 Gbyte eMMC
- Gigabit capable Ethernet port to be compliant with customers' IP networks
 - Benefits:
 - No special network configuration required for ORION
 - Technical spec:
 - Type: 1000BASE-T (IEEE 802.3ab) Automatic MDI/MDI-X configuration is supported (automatic detection of cable type, crossed or straight)
 - Speed: 10/100/1000Mbit/s
 - Physical connection: RJ45 shielded (Standard 1000BASE-T connector) located at the front panel
 - Galvanic separation: 1kVdc shield to case of the controller, 1.5kVdc data line to system voltage
 - Indicators: Two LED's are integrated in the connector: link LED (green), activity LED (yellow)



What is new? 2(3)

- 2 x RS485 ports to enable cost effective Modbus communication with external devices without using external gateway boards.
 - Benefit:
 - Orion to be a versatile site-controller, "connect any device"
 - Technical spec:
 - Type: RS485 half duplex
 - Data rate: up to 115'200 baud (software selectable)
 - Galvanic separation: isolated from controller ground and other ports like USB, or other RS485
(continuous 100Vdc, transient 1kVpeak)
 - Bus termination: 150 Ω termination resistor (jumper on the backplane)
 - Number of interfaces: 2
 - Connector: wired to the backplane connector



The new backplane version with RS485 connectors

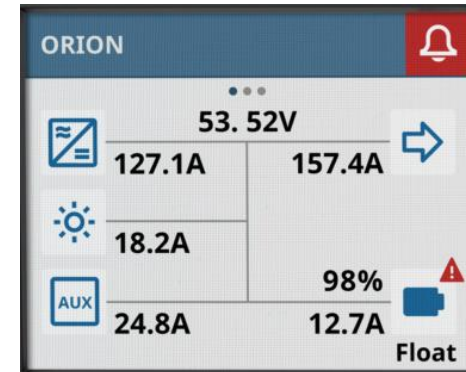
What is new? 3(3)

- MicroSD card slot
 - The benefit:
 - to enable automatic backup and easy replacement of the controller in field
 - Technical spec:
 - Type: microSD (SDHC)
 - Protection: The microSD card signals are mechanically ESD protected.
 - Location: The microSD card interface is not accessible from the front. To remove/insert the card the controller must be removed from the shelf.

Remark: The microSD card interface is not hot pluggable. Ignoring that may lead to data loss.



- Large and easy to read "smart phone like" color display with touch functionality
 - Benefits:
 - Intuitive and easy to use also by unexperienced users
 - Technical spec:
 - 2" color TFT Display with integrated touch sensor
 - Resolution 176 x 220 (RGB)



ORION compatibility



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PSC 3



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What the backwards compatibility means

"Form Fit and Function"

- The new ORION can be plugged into an old system
 - The new ORION is mechanically and electrically compatible with the backplane in the old system
 - The new ORION provides the same functionality as the old controller
 - No impact on system design
- Old setup files can be loaded into the new ORION
 - Old translation files can be loaded in, but there will be some text strings that are not translated (like always when SW is updated)
 - Old backup file can be loaded in, but the new ORION will not read in the old SW below V8.0
 - WEB interface looks the same as before
 - Local interface provides access to the same data and functions as before, but in a different way
 - New structure is designed for touch interaction
 - It is intuitive and easy-to-use, so old or new users won't have any trouble to use it without training.



Benefits for the user

- Best pre-condition and enabler for support of future trends and valuable new features
- Best pre-condition for executing upgrades smoothly and simple
- Investments are secured through best possible upgradability
- Lowest costs for maintenance and upgrades of existing products -> best ROI



Smarter. Greener. Together.

Thank You

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