

## Universal Off-Highway Control – Vision<sup>Plus</sup>

### General Description

The Vision<sup>Plus</sup> is a powerful electronic solution for visualization (from 6.5" up to 10.4" color displays) in off-highway industries that rely on their equipment to function under the most difficult conditions.

It is part of a complete and compatible product family and is protected by a robust housing suited to the off-highway industry.

### Specifications

Parameter		Unit
Dimensions	234 x 181 x 48	mm
Weight	790*	g
Operating Temperature	-40 to +70*	°C
Operating Altitude	0 to 4000	M
Supply Voltage	9 to 36	V
Peak Voltage	52	V <sub>max</sub>
Current Consumption	1* at 9V	A <sub>max</sub>
Environmental Specifications		
Protection Degree	DIN40050 IP65	
Vibration, Shock, Bump	IEC 68-2-64, -27, -29	
EMC	ISO/DIS 13766	
ESD	IEC 61 000	
Temperature Environment	IEC 68-2-1, -2, -3, -14, -30	
Load Dump	ISO 7637	
Conducted Emissions	CISPR 25	

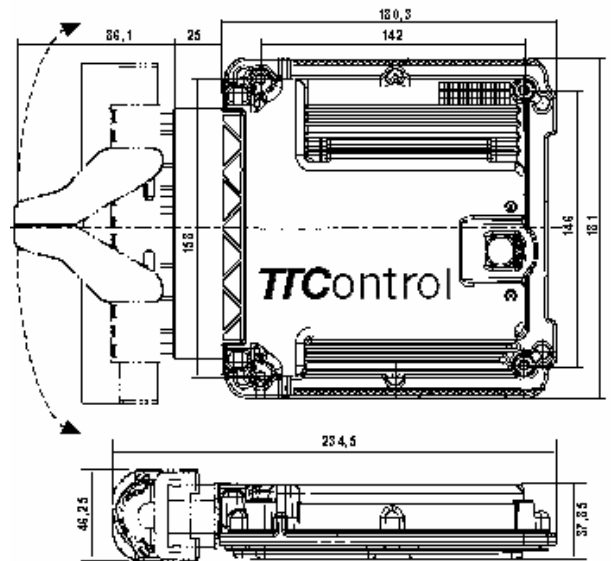
\*All parameters without display unit.

### Features

- MPC823E, 66 MHz, 64 MB Flash, 32 MB RAM, RTC
- 2 x serial EEPROM 32 kB over I<sup>2</sup>C (+ 1 x 32 kB EEPROM or 8 kB FRAM opt.)
- 1 x TTP bus with redundant channels, RS-485 physical layer (up to 5 Mbit/s)
- TTP communication controller AS8202NF
- 1 x RS-232 Modem (incl. handshake signal lines)
- 2 x RS-485 or 1 x RS-485 + 1 x RS-232
- 1 x LIN (up to 19200 bit/s)
- 1 x CANHS + 1 x CANHS or opt. LS (fault-tolerant)
- 1 x Ethernet following IEEE 802.3 (10 Mbit/s)
- 1 x 1-Wire (i-Button) Interface
- 26 x digital IN (active, low or high), some with possibility of resolver input or edge-detection capability
- 24 x digital OUT 500 mA, short to ground protection and open load detection
- LVDS and PAL/NTSC interface with many LCDs:
  - 6.5" TFT 400x240 (-40 °C to +80 °C)
  - 7" TFT 16:9 480x240 (-30 °C to +85 °C)
  - 10.4" TFT 640x480 (-20 °C to +70 °C)
- Touch panel for all displays available over RS-232
- External and on-board temperature sensor
- Software: embedded Linux, C/C++, Microwindows, Engenuity VAPS, CoDeSys® 2.3

### Outline Dimensions

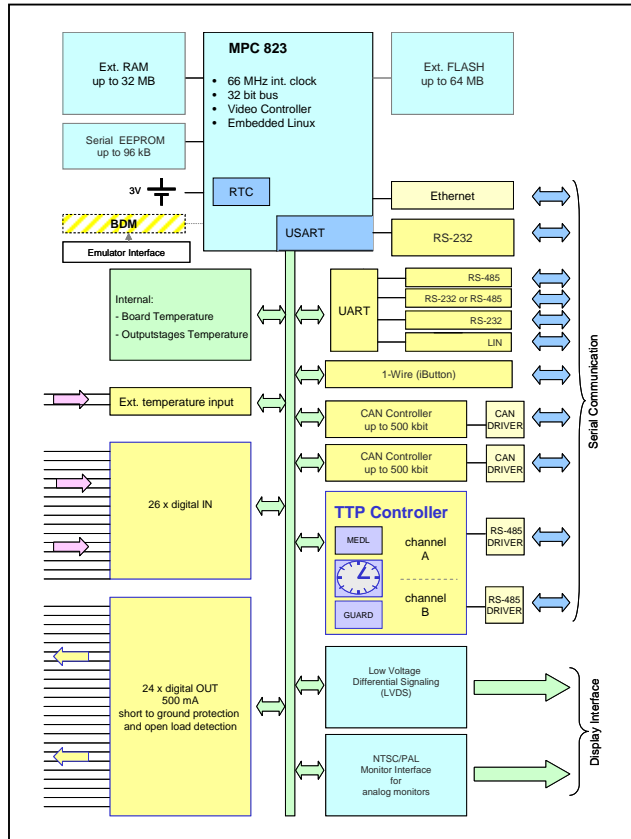
- Aluminum injection-molded housing
- Splash-proof 154 pin connector
- Pressure adjusting with water barrier
- Housing fins for optimal temperature deduction



### Cervis Incorporated, North American Partner of TTControl

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**Block Diagram**



**Ordering Information**

Available Options	Device Numbering System	TTC Vis	n	i	n	n	n	n	n	S
TTC Vis B I M F A CD NA S	<b>Display Type</b>									
TTC Vis C I M F A CD NA S	B: 6.5" TFT 400 x 240									
TTC Vis D I M F A CD NA S	C: 7" TFT 480 x 240									
TTC Vis B I X Y B CD NA S	D: 10.4" TFT 640 x 480									
TTC Vis C I X Y B CD NA S	<b>I/O configuration</b>									
TTC Vis D I X Y B CD NA S	I: with digital and analog I/Os									
TTC Vis B I M F B CD NA S	<b>RAM</b>									
TTC Vis C I M F B CD NA S	M: 16 MB									
TTC Vis D I M F B CD NA S	X: 32 MB									
TTC Vis B I M F A VA NA S	<b>Flash</b>									
TTC Vis C I M F A VA NA S	F: 8 MB									
TTC Vis D I M F A VA TT S	Y: 64 MB									
	<b>Serial interfaces</b>									
	A: 1 x RS-232 Modem (with handshake signals), 2 x RS-485, 1 x LIN									
	B: 1 x RS-232 Modem (with handshake signals) 1 x RS-232, 1 x RS-485, 1 x LIN									
	<b>Firmware</b>									
	CD: CoDeSys Run-Time-System – for CoDeSys development environment									
	VA: VAPS – software tool suite for rapid deployment of dynamic graphical HMIs for complex applications									
	<b>TTP Communication</b>									
	NA: No TTP communication available									
	TI: Enables TTP communication, requires TTP toolsuite									
	<b>Housing</b>									
	S: Sealed									

Unlabeled options are available on request