# VP1004 ISO Reader Multiplexer

The Velos VP1004 is a Velos component that is used to identify animals. The VP1004 must be installed in a V-box. A VP1004 is connected to the Velos CAN-bus and controlled by a VP8001 (VPU).

Inputs / Outputs / Antennas
- 8 antennas, auto scanning one by one (max 10x VP1004 per VP8001)
- 2 outputs available to activate e.g. lights and 2 inputs for reading e.g. switches
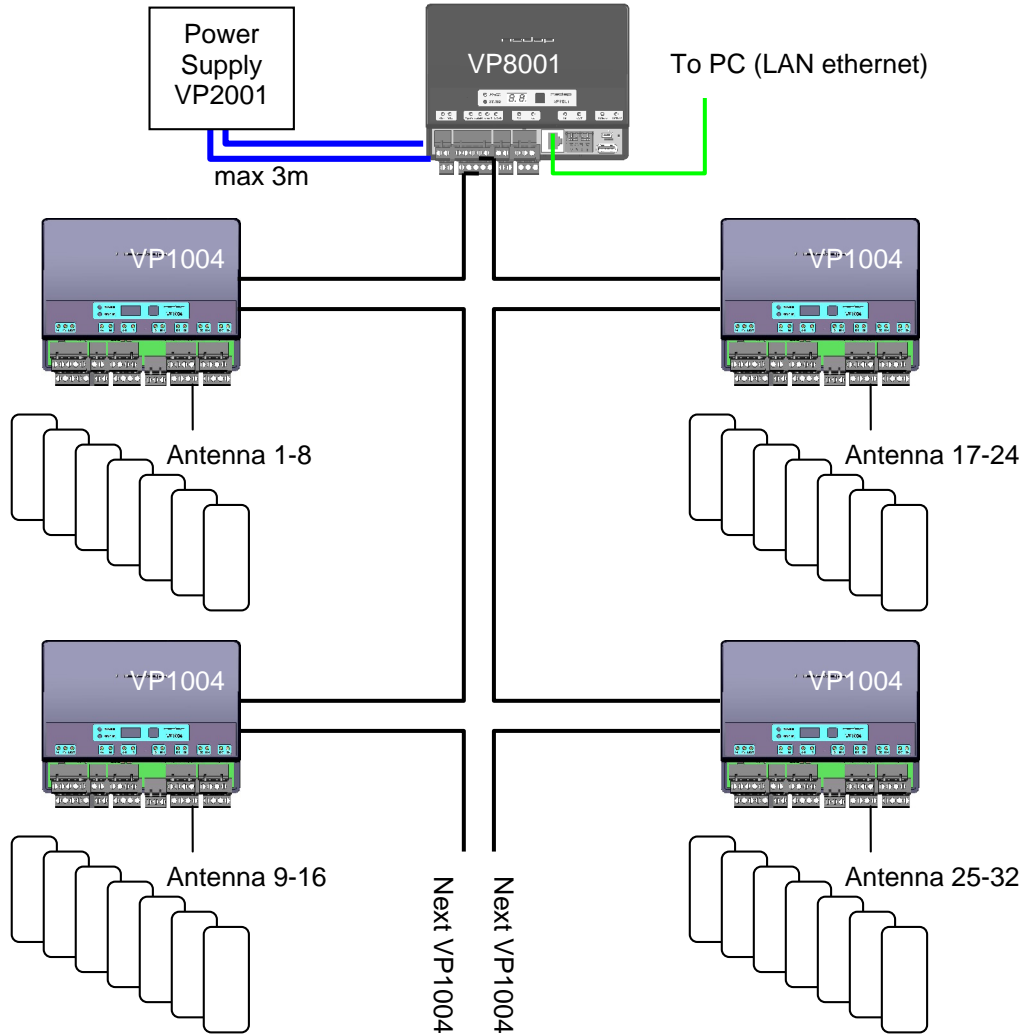
FCC ID: CGDVELOS5 and IC: 1444A-VELOS5

Compliance statement (part15.19)
This device complies with part 15 of the FCC Rules and to RSS210 of Industry Canada.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.

Déclaration Conformité
Cet appareil se conforme aux normes RSS210 exemptés de license du Industry Canada. L'opération est soumis aux deux conditions suivantes:
(1) cet appareil ne doit causer aucune interférence, et
(2) cet appareil doit accepter n'importe quelle interférence, y inclus interférence qui peut causer une opération non pas voulu de cet appareil.
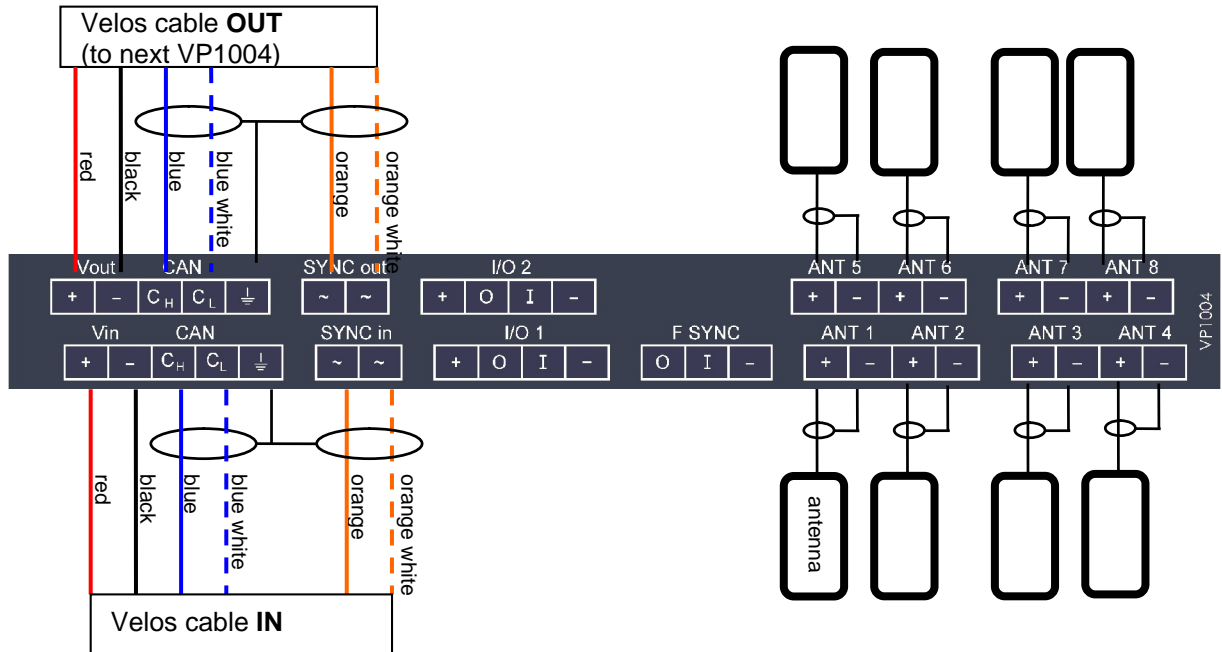
Warning (part15.21)
Changes or modifications not expressly approved by party responsible for compliance could void the user's authority to operate the equipment.
This in particular is applicable for the antenna which can be delivered with the VP4001 System.
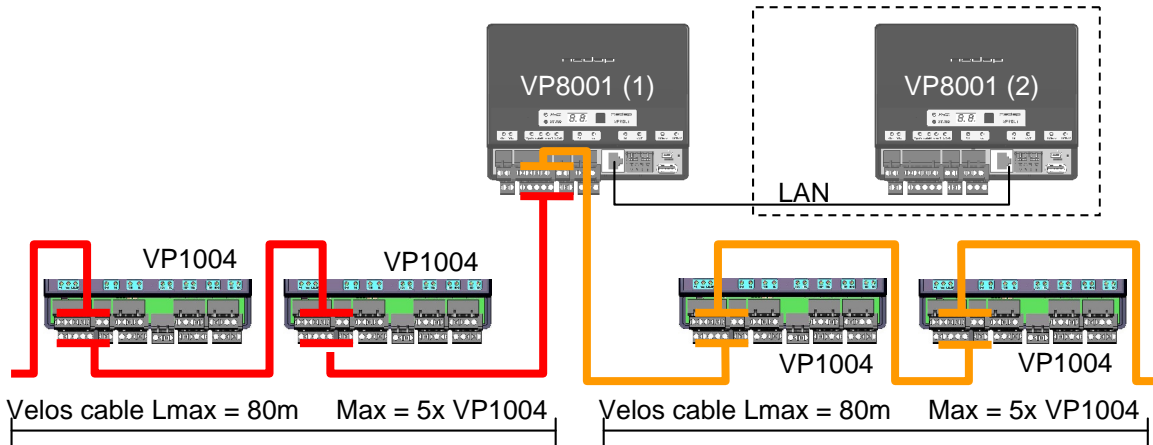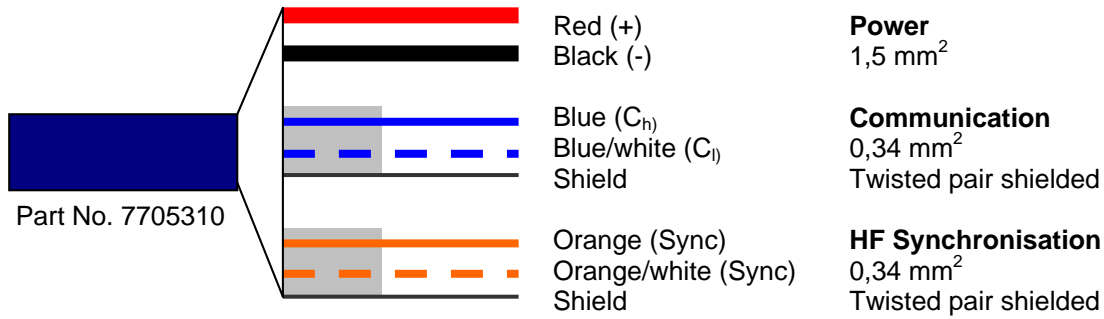
Connections

Details VP1004 inputs and outputs

Vin	**+**	Input voltage 24 VDC, +20% -20%
	-	Minus
CAN	C_H	CAN high (cable twisted pair with C_L)
	C_L	CAN low (cable twisted pair with C_H)
	⏚	Shielding of CAN-bus cable
SYNC	**~**	Synchronisation (no plus or minus, cable must be twisted pair)
	~	See above
I/O 1 .. 2	**+**	Output max 400mA
	O	Output max 400mA / 1.7A input
	-	Minus for output (O) and minus input (I)
	I	Input
ANTENNA	**+**	Antenna (core)
	-	Antenna (shield of coax cable)
F SYNC	**FI/FO**	Frequency synchronisation FI=in FO=out

Details Velos cable

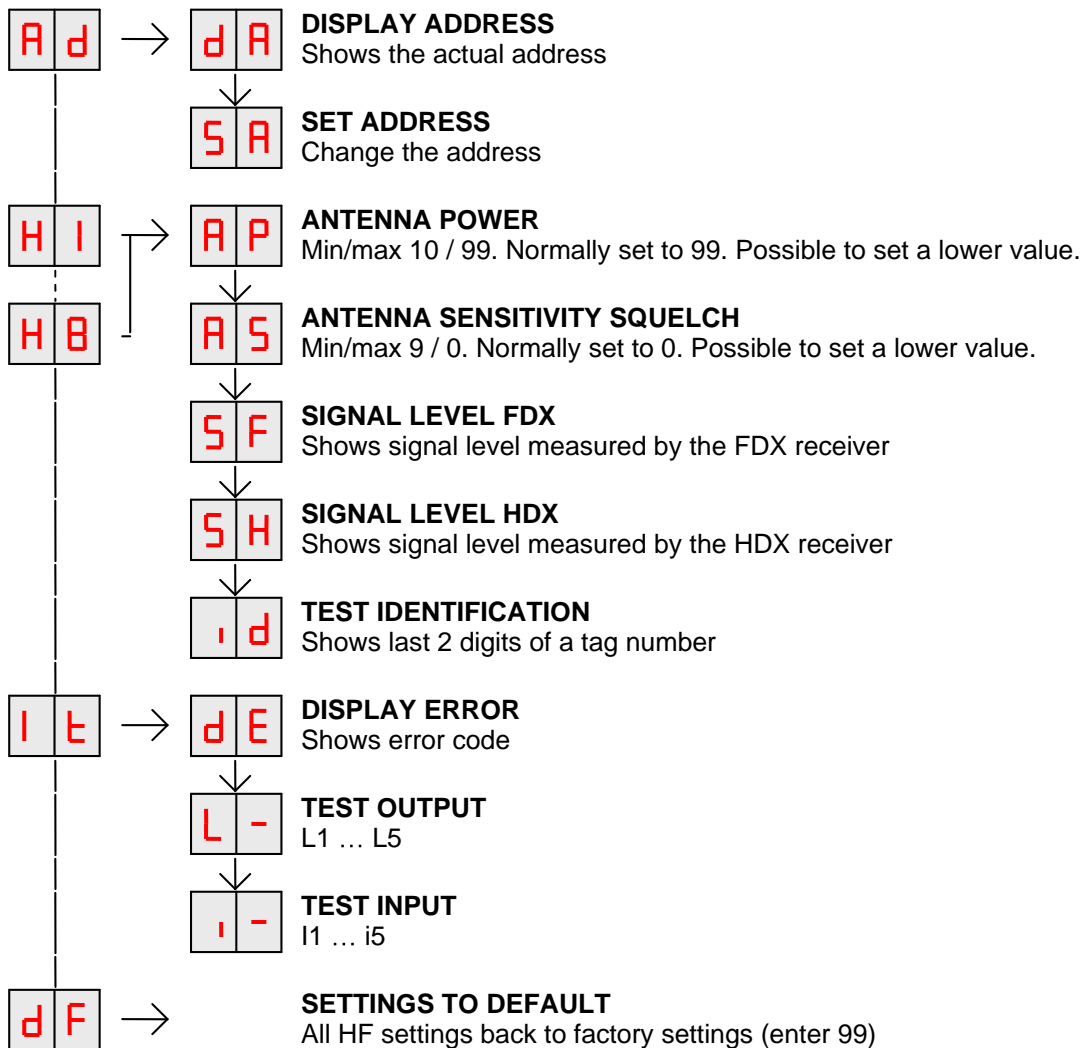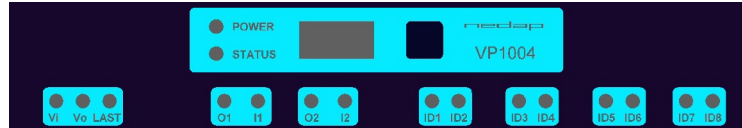|		
Red (+)	**Power**	
Black (-)	$1,5 \text{ mm}^2$	
Blue (C_h)	**Communication**	
Blue/white (C_l)	$0,34 \text{ mm}^2$	
Shield	Twisted pair shielded	
Orange (Sync)	**HF Synchronisation**	
Orange/white (Sync)	$0,34 \text{ mm}^2$	
Shield	Twisted pair shielded	

Part No. 7705310

Antennas

A VP1004 has an automatic tuning module. The status is shown with LED indicators.
Only V-sense antennas types can be used. Not all types are compatible, check compatibility before use.

display **push button**

Display menu

Ad → **dA** **DISPLAY ADDRESS**
Shows the actual address

SA **SET ADDRESS**
Change the address

HI → **AP** **ANTENNA POWER**
Min/max 10 / 99. Normally set to 99. Possible to set a lower value.

HB **AS** **ANTENNA SENSITIVITY SQUELCH**
Min/max 9 / 0. Normally set to 0. Possible to set a lower value.

SF **SIGNAL LEVEL FDX**
Shows signal level measured by the FDX receiver

SH **SIGNAL LEVEL HDX**
Shows signal level measured by the HDX receiver

id **TEST IDENTIFICATION**
Shows last 2 digits of a tag number

It → **dE** **DISPLAY ERROR**
Shows error code

L- **TEST OUTPUT**
L1 … L5

I- **TEST INPUT**
I1 … i5

dF → **SETTINGS TO DEFAULT**
All HF settings back to factory settings (enter 99)

→	Press button until blinking	To leave menu:
▼	Press button short	press button until display is empty

LED indicators

POWER	🟢	Green on	Power on
	⚪	off	No power
STATUS	🔵	Blue	
		Slow breathing	Operating ok
		Fast blinking	Downloading or error during download
Display	on	Address indicated	No communication
	off		Communication status ok
V in	🟢	Green on	Input power applied
	⚪	off	No power
	🟠	Orange	Low power, lower then 20V
	🟠	Orange blinking	Wrong CAN-bus connection, Vin and Vout swapped
	🔴	Red	Error, plus and minus swapped
V out	🟢	Green on	Output power
	⚪	off	No power
	🟠	Orange blinking	Low power
	🔴	Red blinking	Error, plus and minus swapped
LAST	🟢	Green on	V-pack is last one on the CAN-bus
	⚪	off	V-pack is not last one on the CAN-bus
	🟠	Orange blinking	CAN-bus error and last V-pack on CAN-bus
	🔴	Red	CAN-bus error
	🔴	Red blinking	CAN-bus warning / wrong connected
O1 .. O2	🟢	Green on	Output on
	⚪	off	Output off
	🔴	Red blinking	Output error / overload
I1 .. I2	🟢	Green on	Input contact open
	⚪	off	Input contact closed
ID	🟢	Green one by one	Antenna ok
		Green on	Antenna ok and tag identified
	🔴	Red on	Antenna error / not connected / not tuned correctly

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Specifications VP 1004

Dimensions	143 x 120 x 68 mm LxWxH (excluding mounting rail) Weight: ± 360 gr
CAN	CAN-bus communication 125 kBit
Power	Input voltage 25 VDC, +20% -20%
	Min power consumption 300 mA with antenna switched on
	Protected against reverse connection power supply
Software	Downloadable by the CAN network
Inputs	Reading inputs, analog (0-40V) and digital. Suitable for NPN and PNP sensors.
Outputs	Max. 0.4 Amp by current limiter, short-circuiting protected
Antennas	800 µH. Different types possible.
Detection distance	Varies per antenna
Synchronization	Synchronization according to ISO 11785 / 24631-6
Environment	Temperature: Operating: -10 – 55 °C, Storage: -25 – 70 °C
	Relative humidity: 10 – 93% non condensing
IP class	IP 30. When installed in V-box IP 65 (cover and cables installed correctly !)

Always use a NEDAP power supply. The Nedap guarantee-regulations are only valid when is installed as indicated in this manual. Install data cables at a safe distance from (high) powered cables
For more detailed information contact your local Nedap supplier or check the internet site.