



VM15

Parameter tree

Installer manual
VM15 – Parameter tree

9UMEN1504-1200
Release: 220128

VM15 Parameter tree

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1. VM15 Panel



SETUP

SYSTEM CONFIGURATION

Balancer
Touch detector
Gauge

CONNECTIONS

VM15 NETWORK

HMI node	
Local	Remote
HMI Id	HMI Id
TCP control port	Automatic connection
Serial port	IP Address
Baudrate	TCP control port

VM Link CONFIG.

ETHERNET

MAC Address ([read only](#))
Configuration
IP address
Subnet mask
Gateway address

CUSTOM PAGES

CUSTOM PAGE 1

Type
[Balancer+Touch detector](#)
Touch detector card No.
Section
Source
Balancer card No.
Balancing mode

CUSTOM PAGE 2

...

CUSTOM PAGE 8

CONFIGURATION

OPERATOR mode
Pages & Parameters ID
Remote change language

2. VM25 HMI



SETUP

HMI

LANGUAGES

- Remote change language
- Italian
- English UK
- English US
- German
- Spanish
- French
- Russian
- Traditional Chinese
-

CONNECTION

TCP/IP CONFIGURATION

- Host address
- Host port
- Manual management of the communication layer
- HMI Id
- HMI demo mode

SERIAL PORT CONFIGURATION

- COM port
- Baud rate [bps]

CPU PREFERENCES

- Priority
- Affinity
- CPU 0, 1, 2, ...
- Graphic control sampling

DEVICES

Balancer

- Device 1

Touch Detector

- Device 1

Gauge

- Device 1

Multinet

- Device 1

DATA RECORDING

- Command enable
- Sampling rate
- Max file size
- Max folder size
- Storage files management
- Data folder

PRINT

- OEM
- Machine
- Machine Number
- End user
- Printer margins

VM Link

- Search VM Link
- Stop search VM Link

LAYOUT

SETTING

- Layout
- Color palette
- Header height
- Width (for custom layout only)
- Height (for custom layout only)
- X position (for custom layout only)
- Y position (for custom layout only)
- Fix size (for custom layout only)
- Fix location (for custom layout only)
- Full Screen
- Window Border
- Tooltips
- Smart change page
- Quick shortcut
- Start HMI page
- Start VIEWER page
- Viewer Designer

KEYBOARD

BOTTOM / SIDE BAR

- Button height / width
- Left / Top margin
- Vertical / Horizontal spacing
- Number of buttons
- Corners

ICONS

- Command icons (size)
- State icon (size)
- Active command icons color
- Inactive command icon color
- State icon color
- Quality

COLOR

- Info panel background
- Info panel text
- Panel background
- Buttons: background
- Buttons: text
- Buttons: border
- Buttons: selected
- Buttons: selected 2
- Parameters: background
- Parameters: text
- Parameters: selected background
- Parameters: selected text
- Device header: background
- Device header: text
- Device: text color 2
- Device: text
- Device: background
- Diagram: background
- Diagram: axis
- Diagram: cursor
- Diagram: grid
- Diagram: trace
- Diagram header: text (active)
- Diagram header: background (active)
- Diagram header: text
- Diagram header: background

3. Balancer [BN type] – 1 Plane



OPTION

Operating mode
Max Vibration Factor
HW CONFIGURATION
 AV Monitor
 Power-on PC
 Extra Power while Power-on PC
 Extra Power disable
 Dbg: External RAM
 Dbg: FRAM bank #2



WORK

PART PROGRAM 1 (1 PLANE)
 Label (*HMI only*)
 Unbalance filter
 Tolerance signalling timeout
 Maximum vibration timeout
 Label
 Minimum tolerance
 Maximum tolerance
 Maximum vibration
 Balancing at nominal speed
 Tolerance stability check

WORK PARAMETERS FOR PRE-BALANCING

1 PLANE MANUAL BALANCING (PRE_BALANCING)

Correction algorithm
 # CORRECTION
 if ADDITION
 Weight angular width

 if DISPLACEMENT
 Weight angular width
 Weight angular displacement

 if WEIGHTS
 Number of correction holes
 First hole angular position
 Fine adjustment
 Weights fixing diameter
 Weights type
 if DEFINED
 # Weights set
 weight 1 ... 10
 if ACQUIRED
 --- follow the procedure...

Tolerance
Position errors correction
Insufficient capacity check
Nominal rotation speed
Rotation direction
Graduation direction
Neutral cycle


SETUP

COMMAND LINE: TEST I/O

INPUT-OUTPUT

Handshake management
Output B2 pin 3: Echo rpm prescaler
Output B2 pin 6

B1 CONNECTOR

Output B1 pin 13
Output B1 pin 14
Output B1 pin 15

OUTPUT LOGIC (*access with password*)

Digital output logic

BALANCING HEAD [B4]

Neutral cycle mode
Balancing head

CUSTOM BALANCING HEAD (STD type)

Driver voltage
Max voltage
Min voltage
Min time for neutral positioning

DRIVER

Max current
Current limit
Max current prescaler
Cue duration
Ramp duration
Max current correction

COLLECTOR [B4]

No-Link control
No-Link collector type

CUSTOM NO-LINK COLLECTOR

F nominal
F max
F min
F step ±
Frequency adjustment delay
Vs nominal
Vs max
Vs step ±
Is max
Is RMS filter
Vr nominal
Rotating part startup delay

RF CHANNEL TUNING

RF channel
Save new tuning
Change RF channel


SETUP (...continue)

PICKUP 1 [B5]

PICK-UP 1
Sensitivity [mV/g]
Power supply source

BALANCING (*ALGO TRY*)

Start balancing mode
Tolerance signalling
Manual balancing
Power-up balancing
Number of cycles counter
Balancing cycle timeout
Fine adjustment
Machine stiffness

CUSTOM STIFFNESS

Cross voltage
Min cross pulse
Max cross pulse
Parallel voltage
Min parallel pulse
Max parallel pulse

ROTATION SPEED CONTROL

Synchronism source
Synchronism limit for diagnostics
Min rotation speed
Max rotation speed
Nominal rotation speed
RMS Filter
RPM stability check
Bar graph

GRAPHICS & DISPLAY

Unbalance: measuring unit
Unbalance: displayed value

UNBALANCE DIAGRAM

Diagram type
Diagram: max value
Diagram: time window

DIAGNOSTICS

Diagnostic data (Plane A)
Pickup 1 ready check

4. Touch Detector [TD type]



OPTION

Configuration mode
Part Program
Envelope

HW CONFIGURATION

FPGA version ([read only](#))
FEA 1
FEA 4
Demodulator frequency
RESET MODE VM20 LIKE

CONFIGURATION BS

Sections
Envelope
Status Format



WORK – Section A

Part Program #

PART PROGRAM

FORMULA: Outputs definition

$L1 = N \cdot aV1 > 20 + \dots$

$L2 = \dots$

$L3 = \dots$

Output signal

Source elaboration

Source

Channel No.

Comparison

Threshold

Term protection

Threshold protection

Formula operator

ENVELOPE

Envelope

Source

No. of Zones

Self learning process duration

Process duration

Process timeout

Calculation algorithm master

No. of averages

Autostart

Autostart timeout

% for calculation max. Curve

Mode max shape limit

% for calculation min. Curve

Mode min shape limit

% for calculation near min. Curve

Ignore signal level

Ip max limit

Instantaneous max limit mode

Ip min limit

Instantaneous min limit mode

Ip crash limit

Instantaneous crash limit mode

% zone overlapping



SETUP

INPUT-OUTPUT

Handshake management

Reset mode

Reset at start-up

Reset while Manual <> Automatic

Min activation time of the outputs

D2 CONNECTOR

D2.Pin1 input

D2.Pin2 input

D2.Pin3 output

D2.Pin4 output

D2.Pin5 output

D2.Pin6 output

OUTPUT LOGIC ([access with password](#))

Digital output logic

POWER TRANSDUCER [D4]

Power transducer #1: Full-scale

Power transducer #1: RMS filter

AE1 INPUT [D8]

ICP

Sensor ready check

Sensor ready limit

AE4 / AUX INPUT [D5]

ICP

Energizing voltage

Sensor ready check

Sensor ready limit

GRAPHICS & DISPLAY

Peak detection interval

Peak value

Shift graph

Pixels to shift

DIAGNOSTIC

 INCREMENTAL/OFFSET MODE

- V1 mode
- V2 mode
- P mode

 SYNCHRONIZATIONS

- Reset delay
- L1: Activation delay
- L2: Activation delay
- L3: Activation delay

 GRAPHICS & DISPLAY

- Label (*HMI only*)
- Diagram time window
- Trigger position
- Freeze diagram on Limit 1
- Freeze diagram on Limit 2
- Freeze diagram on Limit 3

 V1 DIAGRAM **V2 DIAGRAM**

- Diagram display mode
- Diagram: Max value
- Diagram: Min value

 POWER DIAGRAM

- Diagram display mode
- Diagram: Max value
- Diagram: Min value

5. Gauge [GA and NG type]



OPTION

Part program



SETUP

INPUT - OUTPUT

Reset mode
Post-Process 7 bands control
Dimension format
Analog output #

OUTPUT LOGIC (*access with password*)

Digital output logic

COMMAND LINE:

TEST I/O

ANALOG OUTPUT (*connector G7 only NG card*)

A.O.: Source
A.O.: Max Limit
A.O.: Min Limit
A.O.: Zero
A.O.: Sensitivity

TRANSDUCER [G2] .. [G4]

Transducer type
Energizing voltage
Transducer sensitivity
Gauging RMS filter
Roundness RMS filter
Minimum dimension
Maximum dimension
Upper overrange
Lower overrange
Retraction dimension
Retraction control

SYNCHRONISM CHANNELS [G6 on GA card or G8 on NG card]

SYNCHRONISM 1
No. of references per revolution
Minimum part rpm

GRAPHICS & DISPLAY

Measuring unit
Number of decimal digits
Displayed transducers

SECTION A

Freeze last dimension
Needle graph
Dimension diagram: Full-scale
Dimension diagram: Time window
Dimension diagram: Trigger
Dimension diagram: Trigger position



WORK

(IN-PROCESS)

Offset increment step

PART PROGRAM 1

...

PART PROGRAM 8

Operating mode

Roundness analysis

Gauging cycle start delay

MEASURE

FORMULA

$$D = Kq (K2 G2 + .. + K4 G4)$$

Synchronism

SYNCHRONIZATION

Workhead RPM

Mechanical delay

Electrical delay

Sampling sector

Blanking time

Gauge mode

Workpiece profile

Damping

Synchronized zero

Master deviation from zero

Dwell timeout (sparkout)

Remaining traverse time

COMMANDS

Limit 4

Limit 3

Limit 2

Limit 1

Limit 0

Limit A

ROUNDNESS

ROUNDNESS FORMULA

$$Rnd = K Gx$$

Synchronism

Deviation center

Component to calculate residual

LIMITS

$$L1 = \text{Comp } 1 > \text{Val} + \text{Comp } 2 < \text{Val}$$

$$L2 = \text{Comp } 3 > \text{Val}$$

$$L3 = \text{Comp } 4 > \text{Val}$$

GRAPHICS & DISPLAY

Resolution

Line style

GRAPHICS & DISPLAY *(NG only – HMI only)*

Show transducer graph

Show debug

Show quote graph

Label



WORK

(PRE-PROCESS)

Offset increment step

PART PROGRAM 1

...

PART PROGRAM 8

Operating mode

Gauging cycle start delay

MEASURE

FORMULA

$$D = Kq (K2 G2 + .. + K4 G4)$$

Synchronism

SYNCHRONIZATION

Workhead RPM

Mechanical delay

Electrical delay

Sampling sector

Blanking time

Gauge mode

Workpiece profile

Damping

Synchronized zero

Measure update

Master deviation from zero

Dimension stability timer

Dimension stability tolerance

Dimension stability timeout

LIMITS

Upper limit

Lower limit

GRAPHICS & DISPLAY *(NG only – HMI only)*

Show transducer graph

Show debug

Show quote graph

Label



WORK

(POST-PROCESS)

Offset increment step

PART PROGRAM 1

...

PART PROGRAM 8

Operating mode

Roundness analysis

Gauging cycle start delay

ROUNDNESS

ROUNDNESS FORMULA

$Rnd = K \cdot Gx$

Synchronism

Deviation center

Component to calculate residual

LIMITS

$L1 = \text{Comp } 1 > \text{Val} + \text{Comp } 2 < \text{Val}$

$L2 = \text{Comp } 3 > \text{Val}$

$L3 = \text{Comp } 4 > \text{Val}$

GRAPHICS & DISPLAY

Resolution

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GRAPHICS & DISPLAY (NG only – HMI only)

Show transducer graph

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