

**Tightening Number Managing Controller
UTM – 1500
Setting Software Instruction Manual**

**(Setting Software V1.4)
(Main Unit Software V1.04)**



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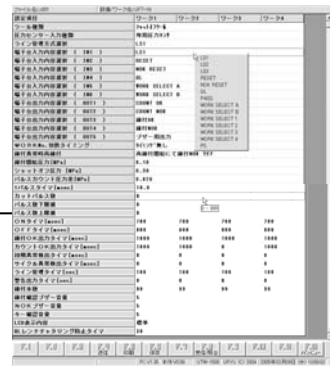
Screen Layout



File Selection



Setting



Menu Screen



Final Data Reception



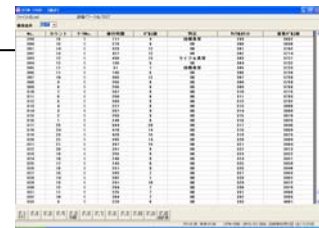
Pressure Value Display



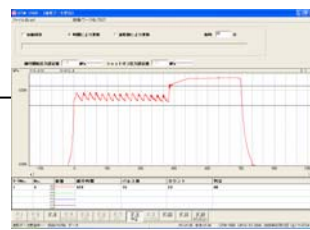
Statistics



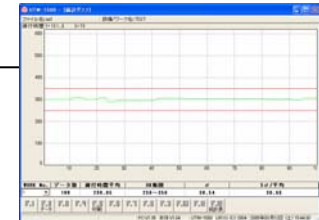
Statistical Data



Waveform Data



Statistical Graph



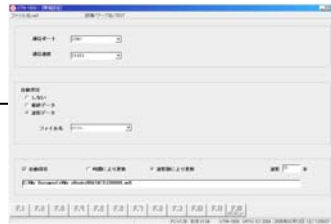
Input/Output Check



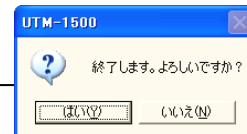
Tool Management



Environment Setting














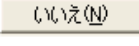
Finish

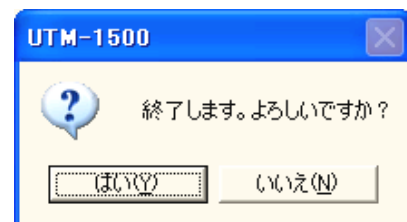


Main Menu Screen

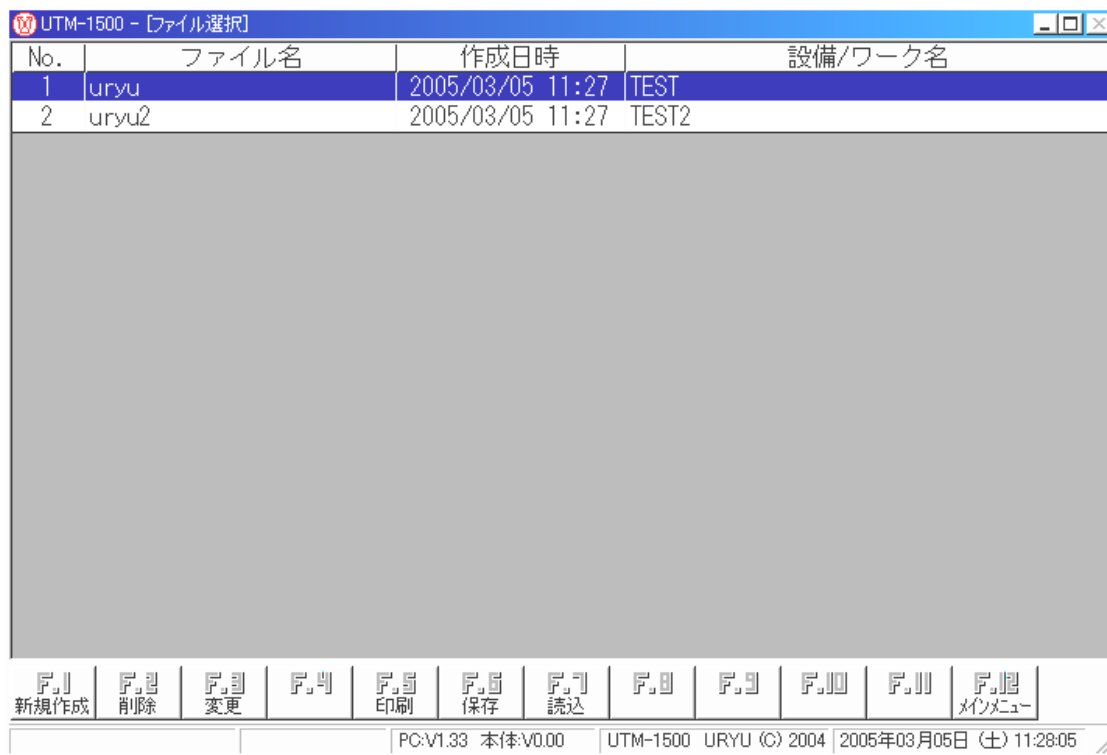
This screen allows screen selection.



- (1) When  is selected, “File Selection” screen will appear.
- (2) When  is selected, “Setting Menu” screen will appear.
- (3) When  is selected, “Final Data Reception” screen will appear.
- (4) When  is selected, “Pressure Value Display” screen will appear.
- (5) When  is selected, “Waveform Data Reception” screen will appear.
- (6) When  is selected, “Statistics” screen will appear.
- (7) When  is selected, “Input /Output Check” screen will appear.
- (8) When  is selected, “Tool Management” screen will appear.
- (9) When  is selected, “Environment Setting” screen will be displayed.
- (10) When  is selected, the pop-up screen on the right will be displayed. Selecting  will finish the software, while selecting  will cancel finish option.



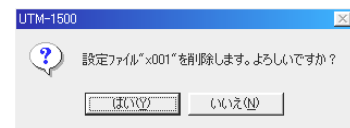
File Selection Screen



• File Selection will appear first at the start of the software.

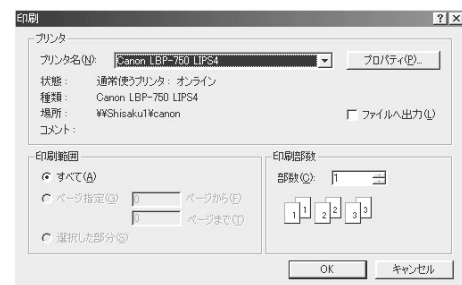
(1) Select to create a new file, and click OK after typing in File Name” and “Tool/Work Name”.

(2) Selecting while putting the cursor on a file to be deleted will call up the pop-up window shown on the right. Select to delete the selected file.



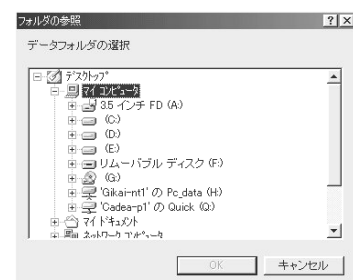
(3) Select to change “Tool/Work Name”.

(4) Selecting enables File Selection screen printout. To start printing, select on the screen shown on the right.



(5) Select to save setting values on a floppy disk or other memory device. Touch while putting the cursor on a file to be saved and specify the intended save place using the folder list window.

(6) Select to import setting values from a floppy disk or other memory device upon specifying the import source using the folder list window.



(7) Touch to return to Main menu.

(8) File Selection will appear first at the start of the software.

Setting Screen

ファイル名:x001 設備/ワーク名:UFT-16

| 設定項目 | ワーク1 | ワーク2 | ワーク3 | ワーク4 |
|--------------------|------------------|------|------|------|
| ツール種類 | シャットオフワーク | | | |
| 圧力センサー入力種類 | 専用圧力センサー | | | |
| ライン管理方式選択 | LS1 | | | |
| 端子台入力内容選択 (IN1) | LS1 | | | |
| 端子台入力内容選択 (IN2) | RESET | | | |
| 端子台入力内容選択 (IN3) | NOK RESET | | | |
| 端子台入力内容選択 (IN4) | QL | | | |
| 端子台入力内容選択 (IN5) | WORK SELECT A | | | |
| 端子台入力内容選択 (IN6) | WORK SELECT B | | | |
| 端子台出力内容選択 (OUT1) | COUNT OK | | | |
| 端子台出力内容選択 (OUT2) | COUNT NOK | | | |
| 端子台出力内容選択 (OUT3) | 締付OK | | | |
| 端子台出力内容選択 (OUT4) | 締付NOK | | | |
| 端子台出力内容選択 (OUT5) | ブザー用出力 | | | |
| WORKNo. 切換タイミング | タイミング無し | | | |
| 締付異常時再締付 | 再締付開始にて締付NOK クリア | | | |
| 締付開始圧力 [MPa] | 0.10 | | | |
| シャットオフ圧力 [MPa] | 0.30 | | | |
| パルスカウント圧力差 [MPa] | 0.020 | | | |
| 1パルスタイマ [msec] | 10.0 | | | |
| カットパルス数 | 0 | | | |
| パルス数下限値 | 0 | | | |
| パルス数上限値 | 0 | | | |
| ONタイマ [msec] | 700 | 700 | 700 | 700 |
| OFFタイマ [msec] | 800 | 800 | 800 | 800 |
| 締付OK出力タイマ [msec] | 1000 | 1000 | 1000 | 1000 |
| カウントOK出力タイマ [msec] | 1000 | 1000 | 0 | 1000 |
| 初期異常検出タイマ [msec] | 0 | 0 | 0 | 0 |
| サイクル異常検出タイマ [msec] | 0 | 0 | 0 | 0 |
| ライン管理タイマ [sec] | 100 | 100 | 100 | 100 |
| 警告出力タイマ [sec] | 0 | 0 | 0 | 0 |
| 締付本数 | 99 | 99 | 99 | 99 |
| 締付確認ブザー音量 | 5 | | | |
| NOKブザー音量 | 5 | | | |
| キー確認音量 | 5 | | | |
| LCD表示内容 | 標準 | | | |
| QLレンチチャタリング防止タイマ | 30 | | | |

For non-numerical setting, select any one from the menu upon right-clicking your mouse.

Clicking a numerical setting column calls up Set Range Window. Input any value directly according to the range.

F.1 F.2 F.3 F.4 送信 F.5 印刷 F.6 保存 F.7 F.8 受信/照合 F.9 F.10 F.11 F.12 メインメニュー

PC:V1.35 本体:V0.00 UTM-1500 URYU (C) 2004 2005年03月09日 (水) 10:58:02

- "F.6 Save" selection allows setting value saving. Terminating the software or selecting another file without saving setting values will resume previous setting values.

Final Data Reception

UTM-1500 - [最終データ受信]

ファイル名: aal 設備/ワーク名: TEST

自動保存 時間により更新 サイズにより更新 毎時 20 分

| No. | カウント | ワーク | 繰付時間 | パルス数 | 判定 | 日付 | 時刻 | サイクルカウント | 蓄積パルス数 |
|-----|------|-----|------|------|------|------------|----------|----------|--------|
| 20 | 13 | 1 | 427 | 12 | OK | 2005.03.12 | 10:49:18 | 302 | 3714 |
| 19 | 14 | 1 | 329 | 12 | OK | 2005.03.12 | 10:49:14 | 301 | 3702 |
| 18 | 15 | 1 | 278 | 8 | OK | 2005.03.12 | 10:47:03 | 300 | 3690 |
| 17 | 15 | 1 | 111 | 4 | 初期異常 | 2005.03.12 | 10:47:01 | 299 | 3682 |
| 16 | 15 | 1 | 130 | 4 | パルス下 | 2005.03.12 | 10:46:57 | 298 | 3678 |
| 15 | 16 | 1 | 273 | 9 | OK | 2005.03.12 | 10:46:55 | 297 | 3674 |
| 14 | 16 | 1 | 124 | 4 | パルス下 | 2005.03.12 | 10:46:51 | 296 | 3665 |
| 13 | 17 | 1 | 152 | 5 | OK | 2005.03.12 | 10:46:50 | 295 | 3661 |
| 12 | 18 | 1 | 282 | 9 | OK | 2005.03.12 | 10:46:47 | 294 | 3656 |
| 11 | 18 | 1 | 134 | 4 | パルス下 | 2005.03.12 | 10:46:42 | 293 | 3647 |
| 10 | 19 | 1 | 153 | 5 | OK | 2005.03.12 | 10:46:38 | 292 | 3643 |
| 9 | 20 | 1 | 151 | 5 | OK | 2005.03.12 | 10:46:36 | 291 | 3638 |
| 8 | 21 | 1 | 391 | 11 | OK | 2005.03.12 | 10:46:34 | 290 | 3633 |
| 7 | 22 | 1 | 182 | 6 | OK | 2005.03.12 | 10:46:30 | 289 | 3622 |
| 6 | 23 | 1 | 337 | 11 | OK | 2005.03.12 | 10:46:28 | 288 | 3616 |
| 5 | 24 | 1 | 422 | 13 | OK | 2005.03.12 | 10:46:23 | 287 | 3605 |
| 4 | 24 | 1 | 430 | 14 | サイクル | 2005.03.12 | 10:46:20 | 286 | 3592 |
| 3 | 24 | 1 | 430 | 13 | サイクル | 2005.03.12 | 10:46:14 | 285 | 3578 |
| 2 | 25 | 1 | 397 | 13 | OK | 2005.03.12 | 10:46:03 | 284 | 3565 |
| 1 | 25 | 1 | 420 | 15 | パルス上 | 2005.03.12 | 10:46:00 | 283 | 3552 |

Data No. received

PC's date and time is shown as no date and time is available at Controller's side.

F.1 F.2 F.3 F.4 F.5 印刷 F.6 保存 F.7 F.8 中止 F.9 F.10 F.11 F.12 メインメニュー

最終データ受信中... PC-V1.35 本体V1.04 UTM-1500 URYU (C) 2004 2005年03月12日 (土) 10:51:13

Automatic Saving

- Checking “Auto Save” allows “data save place” and “file name” selection.
- Select between “Update on Time” and “Update on Size”.
- Input time interval when “Update on Time” is selected. Date will be updated at input time intervals.
- Input size when “Update on Size” is selected. Data will be updated every time when the input size is attained.

Receiving Item Selection

- Right-click your mouse to call up the pertaining menu, and check any item to display.
- Items without a checkmark will not appear but the corresponding data is in storage.

| | | |
|----|------|------------|
| 5 | OK | 2005.03.12 |
| 5 | OK | 2005.03.12 |
| 11 | OK | 2005.03.12 |
| 6 | OK | 2005.03.12 |
| 11 | OK | 2005.03.12 |
| 13 | OK | 2005.03.12 |
| 14 | サイクル | 2005.03.12 |
| 13 | サイクル | 2005.03.12 |
| 13 | OK | 2005.03.12 |
| 15 | パルス上 | 2005.03.12 |

- ✓ No.
- ✓ カウント
- ワークNo.
- ✓ 繰付時間
- ✓ パルス数
- 判定
- ✓ 日付
- 時刻
- サイクルカウント
- 蓄積パルス数

- To print out data received, select “F.5 Print”.
- To save data received, select “F.6 Save”.
- To receive data, select “F.8 Receive”.

will turn to under receiving conditions to halt communication. Data reception is effective continuously when returned to Main menu without halting communication.

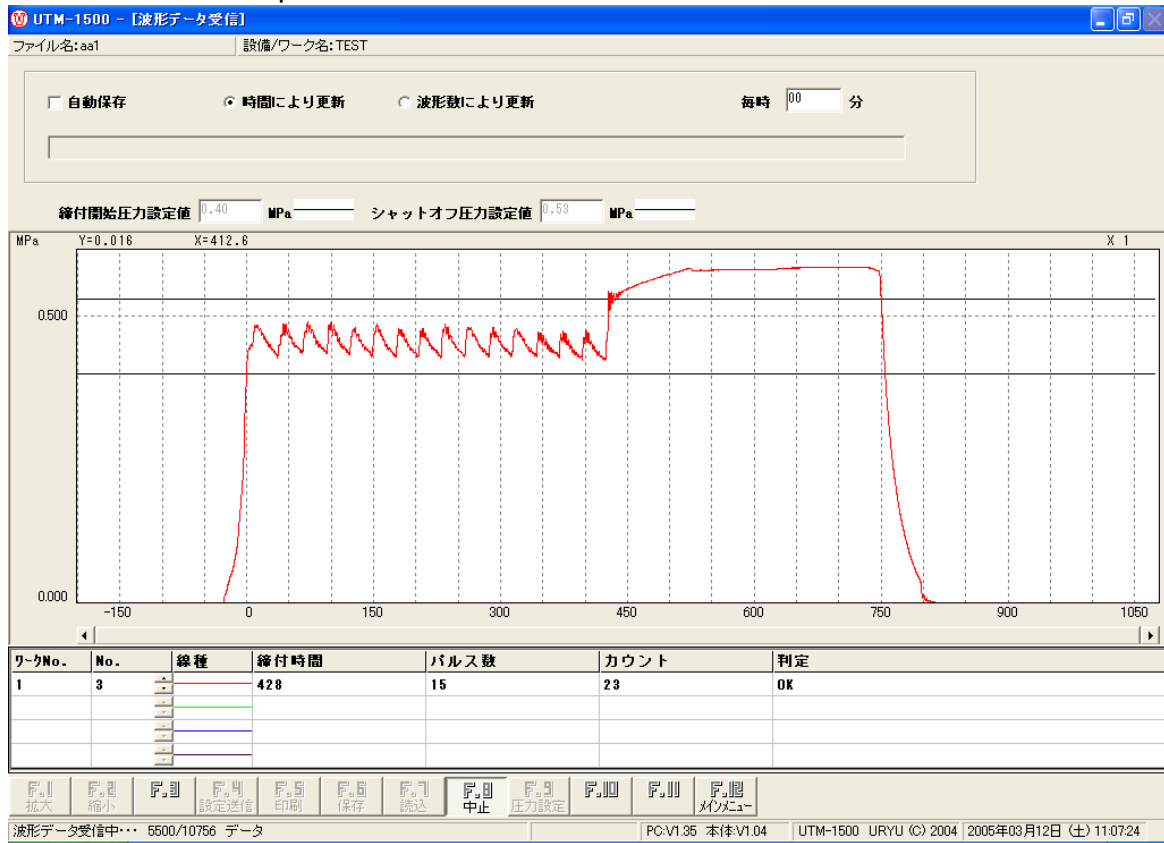
- To return to Main menu, select “F.12 Main Menu”.



Pressure Value Display Screen



- This screen displays pressure values in real time.
- Zero point correction will be effected when “F.6 Zero Correction” is selected. If correction is effected at the time of 0.02V, pressure value after this operation will always take 0.00 [Mpa] at 0.02V.

Waveform Data Reception



- Waveform data will be displayed with the time axis enlarged, when “F.1 Enlarge” is turned on.
- Waveform data will be displayed with the time axis reduced, when “F.2 Reduce” is turned on.
- Select “F.5 Print” to produce printouts of waveform data now on display.
- To save data received, select “F.6 Save”. (CSV format)
- Selecting “F.7 Import” will allow importing of previously received and saved data.
- To receive waveform data, select “F.8 Receive”.
-  will turn to  during receiving conditions to halt data reception.
- Data reception is effective continuously when returned to Main menu without halting data reception.

Preset Pressure Value Change

- When “F.9 Pressure Setting” is selected, setting values of Tightening Start Pressure and Shutoff (Hitting Start in the case of TM or Standard Tool) can be changed. “F.9 Setting Save” will turn on during changing.
- Upon pressure changing, setting values are saved with “F.9 Setting Save” and setting values are transmitted to Controller with “F.4 Setting Send”.
- Returning to Menu without saving will resume PC’s previous setting values.
- When “F.10 Display Clear” is selected, waveform data display will be cleared.
- To return to Main Menu, select “F.12 Main Menu”.

Statistics

Statistical Chart

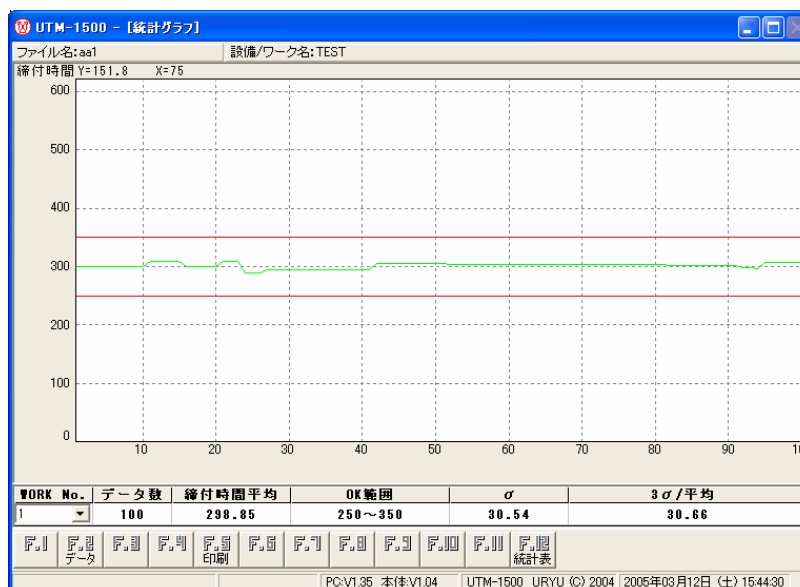
UTM-1500 - [統計]
 ファイル名: aa1 設備/ワーク名: TEST
 検索条件 全て




| WORK No. | データ数 | 締付時間平均 | OK範囲 | σ | 3 σ /平均 |
|----------|------|--------|---------|----------|----------------|
| 1 | 101 | 297.03 | 250~350 | 29.85 | 30.15 |
| 2 | 21 | 285.71 | 260~340 | 65.47 | 68.74 |
| 3 | 10 | 270.00 | 240~360 | 94.87 | 105.41 |
| 4 | 35 | 291.43 | 280~320 | 50.71 | 52.20 |

PC-V1.35 本体-V1.04 UTM-1500 URYU (C) 2004 2005年03月12日 (土) 15:33:54

- Pick up data to display by selecting between All/OK/NOK in Search Criteria.
- Data will be saved in CSV format with “F.6 Save”.
- Start Controller memory data reception using “F.8 Receive”. Any data will be accepted regardless of Search Criteria selection.
- Memory data retained in Controller will be cleared when “F.9 Memory Clear” is selected.
- The maximum memory data for total works is 1,500.

Statistical Graph



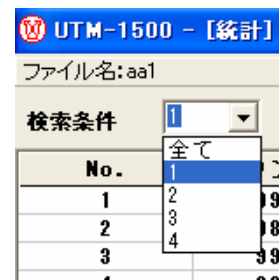
- (1) When  is selected, Statistical Data screen will appear.
- (2) To print out graphs, select  .
- (3) To return to Statistical Chart, select  .

Data

| No. | カウント | ワークNo. | 締付時間 | A*挿数 | 判定 | サイクルカウント | 蓄積A*挿数 |
|-----|------|--------|------|------|--------|----------|--------|
| 299 | 15 | 1 | 111 | 4 | 初期異常 | 299 | 3682 |
| 300 | 15 | 1 | 278 | 8 | OK | 300 | 3690 |
| 301 | 14 | 1 | 329 | 12 | OK | 301 | 3702 |
| 302 | 13 | 1 | 427 | 12 | OK | 302 | 3714 |
| 303 | 12 | 1 | 430 | 13 | サイクル異常 | 303 | 3727 |
| 304 | 12 | 1 | 136 | 5 | OK | 304 | 3732 |
| 305 | 11 | 1 | 51 | 1 | 初期異常 | 305 | 3733 |
| 306 | 11 | 1 | 145 | 5 | OK | 306 | 3738 |
| 307 | 10 | 1 | 366 | 12 | OK | 307 | 3750 |
| 308 | 9 | 1 | 256 | 8 | OK | 308 | 3758 |
| 309 | 8 | 1 | 256 | 8 | OK | 309 | 3766 |
| 310 | 7 | 1 | 267 | 9 | OK | 310 | 3775 |
| 311 | 6 | 1 | 258 | 8 | OK | 311 | 3783 |
| 312 | 5 | 1 | 269 | 9 | OK | 312 | 3792 |
| 313 | 4 | 1 | 227 | 8 | OK | 313 | 3800 |
| 314 | 3 | 1 | 267 | 9 | OK | 314 | 3809 |
| 315 | 2 | 1 | 258 | 9 | OK | 315 | 3818 |
| 316 | 1 | 1 | 249 | 8 | OK | 316 | 3826 |
| 317 | 25 | 1 | 584 | 20 | OK | 317 | 3846 |
| 318 | 24 | 1 | 410 | 14 | OK | 318 | 3860 |
| 319 | 23 | 1 | 428 | 15 | OK | 319 | 3875 |
| 320 | 22 | 1 | 395 | 14 | OK | 320 | 3889 |
| 321 | 21 | 1 | 397 | 15 | OK | 321 | 3904 |
| 322 | 20 | 1 | 281 | 9 | OK | 322 | 3913 |
| 323 | 19 | 1 | 255 | 9 | OK | 323 | 3922 |
| 324 | 18 | 1 | 248 | 9 | OK | 324 | 3931 |
| 325 | 17 | 1 | 243 | 8 | OK | 325 | 3939 |
| 326 | 16 | 1 | 251 | 9 | OK | 326 | 3948 |
| 327 | 15 | 1 | 203 | 7 | OK | 327 | 3955 |
| 328 | 14 | 1 | 202 | 7 | OK | 328 | 3962 |
| 329 | 13 | 1 | 281 | 10 | OK | 329 | 3972 |
| 330 | 12 | 1 | 204 | 7 | OK | 330 | 3979 |
| 331 | 11 | 1 | 225 | 7 | OK | 331 | 3986 |
| 332 | 10 | 1 | 204 | 7 | OK | 332 | 3993 |
| 333 | 9 | 1 | 229 | 8 | OK | 333 | 4001 |

• Select among All/1/2/3/4 to specify Work No. for data display.

- (1) When is selected, Statistical Graph screen will appear.
- (2) To print out statistical data, select .
- (3) To return to Statistical Chart, select .



Input/Output Check



- (1) Wiring condition check will be carried out through Input Terminal Block status monitoring and Output Terminal Block forced output. Items now under Input ON or Output ON state are indicated in red and the ones now under OFF state are displayed in green.
- (2) Clicking an item now under ON state will turn it to OFF state, while clicking an item now under OFF state will turn it to ON state.
- (3) The item names correspondent to the names selected on Terminal Block Input/Output selection columns on Setting screen.

Tool Management

Tool Name

Type in “Model” and “Number”.

Allowable Range: 0~14 characters

Initial Value: 0 character

Cycle Count/Cumulative Pulse Number

When the tightening number and the pulse number attained the values preset on Cycle Count Output and Cumulative Pulse Number Output, the messages input on Display Message columns will be displayed on Controller Unit and then outputs will be produced from the terminal block.

Cycle Count Output 1/2

Allowable Range: 0~999999

Initial Value: 0

Output 1/2 Display Message

Allowable Range: 0~10 characters

Initial Value: “CYC. COUNT*” * : 1 & 2

Cumulative Pulse Number Output 1/2

Allowable Range: 0~9999999 Pulse

Initial Value: 0 Pulse

Output 1/2 Display Message

Allowable Range: 0~10 characters

Initial Value: “PULS. NOS*” * : 1 & 2

- Tool Name and Display Message can be represented by numeric and alphabet characters, symbols including !"#%&'()*+</>=? and a space feed. (ASCII Code 10h~DFh)

“F.4 Send”: Use this to send preset values.

“F.6 Save”: Use this to save preset values and current values received (Cycle Count/Cumulative Pulse Number).

“F.8 Receive”: Use this to receive preset values, Cycle Count and Cumulative Pulse Number.

Cycle Count and Cumulative Pulse Number will be displayed with reception time.

“F.10 Total Clear”: Use this to clear Cycle Count and Cumulative Pulse Number.

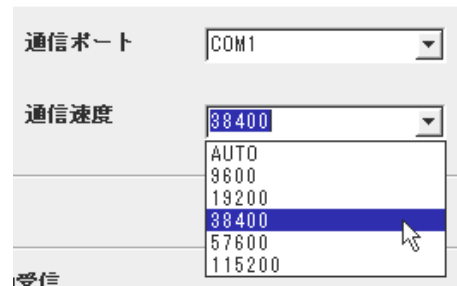
When “Only PC Current Value” is selected upon displaying the message on the right, only current values at PC’s side are cleared, while cumulative data at Controller’s side will be cleared additionally when “PC/Controller” is selected.

Environment Setting



Communication Rate

- Select from among “AUTO/19200/38400/57600/115200 bps” .
- In the case of AUTO setting, communication rate will automatically be recognized at the initial contact after setting.
- Initial value for PC and Controller is both 38400bps.



Note: Changing Controller communication rate once communication has been established with Controller at the initial contact under AUTO setting will cause a communication rate drift.

Reception Setting

(1) Automatic Reception

- When Auto Receive is checked, data receiving will be initiated on the Reception screen selected at the start of the software.
- Specify a file name by selecting one among registered file names in File Selection Window instead of directly entering on the window.

(2) Automatic Save

- Select either “No” or a save timing option.
- When Update on Time is selected, put time interval to update on the column. When Update on Size is selected, updating will be effected every time when the preset size is attained.



- Preset conditions are interconnected with Final Data Reception screen and Waveform Data Reception screen.



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