

Fluke 190-Series II Firmware Upgrade V11.46

Requirements

1. Fluke 190-II Series ScopeMeter with firmware prior to V11.46
2. Supported models are: 190-102, 190-104, 190-062, 190-202, 190-204, 190-502, 190-504
3. USB cable
4. PC with Windows XP , Vista, Windows 7, Windows 8 or Windows 10
5. One USB port
6. Internet connection (only in case no ScopeMeter USB drivers were installed on the PC before)

Important notes

Data stored in the instrument internal memory will be erased during the firmware upgrade process!
Fluke does not provide a Flash tool to 'undo' the firmware upgrade.

Getting Started

1. Enter the serial number of your instrument in the Serial Number dialog box. The serial number is printed on the rear of your instrument but also visible via USER key and F3 key (VERSION & CAL).
2. Connect your ScopeMeter Series II to a USB port of your PC using the cable that is delivered with your instrument.
3. In case no driver for ScopeMeter is installed follow the instructions on the screen.
4. Select the Virtual Com port to which the ScopeMeter is connected. See device manager for 'Com Ports assignment', the ScopeMeter is listed as Fluke USB Serial Port (COMx) where x is the assigned Com-port number.
5. In case the Virtual Com port is outside the range Com1....Com32, assign the USB port to a lower Virtual Com port number.
6. Connect the ScopeMeter to mains power using the BC190 Battery Charger.
7. Turn on your ScopeMeter.
8. Select START to start the upgrade process.
9. When the upgrade is successful, a message is displayed. Note that your instrument will switch off and on several times automatically during the upgrade process.
10. When the upgrade is completed the instrument will be switched off, and the "upgrade successful" message is displayed on the PC-screen.
11. Wait until such message is displayed on the PC screen before interrupting the USB connection or making changes to the testtool settings !

In case the upgrade process is not successful (e.g. error message stating "data corrupt or invalid") please try the following:

- Power down the instrument,
- disconnect power cable,
- disconnect USB cable,
- connect USB cable,
- connect power cable
- and power up the instrument.

Version Compatibility

Firmware	190-x04 (non 500MHz)	190-504	190-xx2 (non 500MHz)	190-502
V11.4x	•	•	•	•
V11.30	•	•	•	•
V11.20	•		•	•
V11.10	•		•	•
V11.00				•
V10.4x	•			
V10.00			•	
V09.00	•			

Firmware improvements by firmware Release

V11.46 Improvements with respect to V11.45 (all models)

- Modified power supply control and battery charger control routines so as to meet requirements of CEC

V11.45 Improvements with respect to V11.44 (all models) - (selectively distributed)

- Resolved issue with data storage of set-up files on USB-flash drives

V11.44 Improvements with respect to V11.43 (all models)

- Improved trigger delay handling for fastest timebase settings (scope mode).
- Production related improvement.

V11.43 Improvements with respect to V11.42 (all models)

- Fixed issues with replicating channel settings using A, B, C or D buttons.
- Fixed issue with missing channel ground indication.
- Fixed issues with wrong waveform display in beginning after turning on cold ScopeMeter.
- Fixed issue with dynamic calibration.

V11.42 Improvements with respect to V11.41 (all models)

- Production related improvement to support new component.

V11.41 Improvements with respect to V11.40 (all models)

- Production related improvements.

V11.40 Improvements with respect to V11.31 (all models)

- Improved speed of acquisition for replay and pass/fail testing.
- Fixed issues with pass/fail and replay.
- Fixed issues with spectrum display.
- Fixed issue with BWL indication in meter mode.
- Fixed issue with rounding frequency results.

V11.31 Improvements with respect to V11.30 (all models)

- Production related improvements.

V11.30 Improvements with respect to V11.20 (all models)

- Added support for Fluke 190-504.
- Fixed potential startup problem related to no traces on screen, or in the 4 Channel version no accessible C&D channels.
- Fixed issues in storing of Scope Record and Trendplot data as .CSV to USB.
- Fixes issue when ScopeMeter was turned off in TrendPlot mode with cursors on.

V11.20 Improvements with respect to V11.10 (all models)

- Added ability to open saved setup files of V9.0 or later.
- Added ability to open saved waveform files of V10.0 or later.
- Fixed possibility to do risetime measurement in HOLD mode.
- Fixed issue with sending replay setups using FlukeView.
- Fixed issue to use AC-coupling for spectrum.
- Fixed issue when turning off instrument while saving.
- Fixed issue so that meter reference of '0' is represented with same resolution as reading.
- Fixed power up problems after auto switch off.
- Fixed problem with display of first sample of high frequency signal on 500MHz version.
- Fixed problem with indicator of Manual/Auto button. As in versions older than 11.00 the led is on when in manual mode.
- Improved display of bandwidth filter setting so that it only shows setting for active channels.
- Fixed issue so that Scope Record trace is cleared when selecting Run.
- Fixed issue so that waveforms are cleared when using single shot trigger.
- Improved pass/fail testing with support for single shot trigger mode.
- Prevent locking of instrument when data is copied to USB memory stick and no stick is present.
- Fixed issue with using replay with a single captured waveform.
- Fixed issue when manually trying to change timebase to a timebase value that is not supported.
- Fixed problem with sending slow changing waveform to FlukeView.
- Added hardware version indication in subversions item in version & calibration menu.
- Fixed BMP-format problem when copying images from INT to USB.
- Fixed issue with 4 channel meter reference setting for higher frequency signals.

V11.10 Improvements with respect to V11.00 (all models)

- Save to CSV file on USB flash drive.
- Improved frequency measurement for motor drive applications.
- For 500 MHz instruments 20 kHz bandwidth filter is replaced with a 10 kHz bandwidth filter.
- Improved DC offset performance and calibration for readings and waveforms.
- Improved offset-correction for Meter 500mV range.
- Corrected ScopeRecord samples for offset.
- Fixed offset issues for data saved in .CSV format on USB device.
- Fixed TrendPlot vertical offset and scaling for both remote control and save to CSV.
- Improved recall setup. (Hold status set to Run after recall setup).
- Fixed errors due to invalid pass in pass/fail testing.
- Fixed recall bug causing compatibility issues.
- Updated firmware subversion to 10.10 for better power management.
- Fixed Replay for downloading by FlukeView in glitch off mode.
- Fixed Replay not working properly when "Auto range/trigger" changes.
- Fixed Replay issue missing first waveform.
- Fixed Replay showing wrong attenuator settings.
- Implemented TA (Trigger Acquisition) command for remote control.
- Updated Chinese language messages and warnings.
- Fixed issue with ScopeRecord mixing up waveform data when downloading with FlukeView.
- Improved trigger annunciator position, for trigger hysteresis.
- Fixed V/Hz measurement missing V symbol in units.
- Fixing USB behavior displaying firmware subversion correctly.
- Fixed incorrect Fails in Pass/Fail due to short reference trace.
- Fixed adjusting digits in adjust reference menu.

V11.00 Improvements with respect to V10.42 (190-502 only)

- Implementation 500 MHz bandwidth.
- Risetime on 190-20x reading not accurate/correct.
- Fixed: Scope Record Offset - rubbish data at speeds of 100 ms/div and less.
- Fixed Scope Trend Plot Scaling.

- Resolved Instrument reboot in loop
- Reduced Trigger error (smaller than 1 sample.)
- Fixed trigger indicators. (Stable triggering on trace, but trigger indicators give UNTRIGGERED (>>200MHz))
- Fixed: Scope Record in 10ms normal mode stops unexpectedly.
- Fixed Single shot in combination with Replay not working.
- Fixed instrument reset with download all screens.
- Fixed incorrect replay index in Pass / FAIL.
- Fixed Mismatch in Readings / Trace in Save Recall.
- Fixed Unstable Vac measurement at low frequency.
- Improved Auto trigger on "missing pulse" signals.
- Fixed foldback in Scope TrendPlot.
- Corrected Grid time in Scope Record Overview mode.
- Fixed garbled traces in Scope Record after download to FlukeView.
- Fixed downloading Trace information in Pass/Fail.
- Corrected display of right arrow at Adjust Reference?
- Fixed issue with no replay on Readings with Glitch OFF.
- Fixed issue with Replay only being available after 3 acquisitions, and showing only the last two acquisitions.
- Improved slow waveform update in AUTO >1Hz.
- Fixed "Flat line" when zooming in.
- Improved Power-on for factory mainboard test.
- Added 1ns/DIV timebase for 500 MHz models.
- Increased resolution to 0.01V for 2 and 5 mV settings.
- Extended Frequency reading above 250 MHz..
- Corrected "A" reading indicator overlaps the "C" reading indicator.
- Improved math menu behavior.

V10.42 Improvements with respect to V10.41 (4 channel only)

- Fixed power off issues.
- Improved calibration procedure.

V10.41 Improvements with respect to V10.40 (4 channel only)

- Resolved incorrect decimal point issue.

V10.40 Improvements with respect to V10.00 (4 channel only)

- Improvements made with firmware V10.00 for the 2 channel ScopeMeter models (190-062, -102, -202) with firmware are also implemented for the 4 channel models (190-104, -204).

V10.00 Improvements with respect to V09.00 (2 channel only)

- Improved communications with USB storage devices for better access to waveform data after recalling data.
- 10k waveform memory supported also for faster time base settings.
- Improved zoom capability at faster time base settings.
- Improved waveform download with FlukeView software.
- The color of the status bar (volt/div, time/div, ...) has been changed to give a more stable color.

Risks when upgrading firmware!

Updating the instrument firmware involves overwriting the internal Flash-ROM code currently stored on the instrument and replacing it with new code. This process has the potential to render your instrument useless if there is an error or interruption while the update is occurring. This may require returning the instrument for repair at a nominal fee.

Follow the steps below prior to selecting the Flash Tool START button.

- Validate that the communication link between your computer and the instrument is reliable. (*Tip: Use the FlukeView software to send and receive setups to verify communication*)
- Log on to your computer with an administrator account

- Close all other applications
- Close applications running in the background. Some of the most common applications running in the background that are known to interfere are antivirus software, the IntelliMouse application, and audio players. Most of these applications appear in the System Tray on the Desktop. To close an application that appears in the System Tray, right click on the application icon and look for options to close or disable the application.

If the upgrade fails.

If the upgrade is unsuccessful, sometimes the instrument is unable to start properly. In this situation the display will not switch on, and only a (weak) beep indicates that the instrument is on.

If so, turn on your instrument while holding the *cursor up* and *cursor right* keys and listen for the weak beep to sound. Now restart the upgrade process. Keep the keys pressed until at least 4 blocks of the progress bar appear.

The Flash Tool will recognize that the previous installation failed, and recover the instrument data automatically. Release the cursor keys only once the upgrade process has started and four blocks of the progress bar have become visible.

In case an error message stating “data corrupt or invalid” is displayed, please try the following:

- Power down instrument,
- disconnect power cable,
- disconnect USB cable,
- connect USB cable,
- connect power cable
- and power up the instrument.