**Operator**

You can define equations for Math1 – Math10 by combining the following operators.

| Operators and Examples | | Computation |
|---|---|---|
| +,-,*,/ | C1+C2 | Four arithmetical operations of the two specified waveforms |
| SHIFT | SHIFT(C1) | Displays the specified waveform with the phase shifted. |
| ABS | ABS(M1) | The absolute value of the specified waveform |
| SQRT | SQRT(C2) | The square root of the specified waveform |
| LOG | LOG(C1) | The logarithm of the specified waveform |
| EXP | EXP(C1) | The exponent of the specified waveform |
| NEG | NEG(C1) | The inversion of the specified waveform around level 0. |
| SIN | SIN(T) | The sine of the specified waveform |
| COS | COS(C1) | The cosine of the specified waveform |
| TAN | TAN(C1) | The tangent of the specified waveform |
| ATAN | ATAN(C1,C2) | The arc tangent of the two specified waveforms (a value within $\pm\pi$) |
| PH | PH(C1,C2) | The phase difference between the two specified waveforms |
| DIF | DIF(C1) | The differentiation of the specified waveform |
| DDIF | DDIF(C1) | The secondary differentiation of the specified waveform |
| INTG | INTG(C1) | The integration of the specified waveform |
| IINTEG | IINTEG(C1) | The secondary integration of the specified waveform |
| BIN | BIN(C1) | The binary conversion of the specified waveform |
| P2 | P2(C1) | The square of the specified waveform |
| P3 | P3(C1) | The cube of the specified waveform |
| F1 | F1(C1,C2) | $\sqrt{\lvert C1^2+C2^2\rvert}$ of the specified waveform |
| F2 | F2(C1,C2) | $\sqrt{\lvert C1^2-C2^2\rvert}$ of the specified waveform |
| FV | FV(C1) | The inverse of the PWHH of the pulse width |
| PWHH | PWHH(M1) | Pulse width computation from the rising edge to the next rising edge |
| PWHL | PWHL(C2) | Pulse width computation from the rising edge to the next falling edge |
| PWLH | PWLH(C1) | Pulse width computation from the falling edge to the next falling edge |
| PWLL | PWLL(C1) | Pulse width computation from the falling edge to the next rising edge |
| PWXX | PWXX(C2) | Pulse width computation from the rising or falling edge to the next rising or falling edge |
| DUTYH | DUTYH(C1) | Positive (high) duty cycle within each cycle of the specified waveform |
| DUTYL | DUTYL(C1) | Negative (low) duty cycle within each cycle of the specified waveform |
| FILT1 | FILT1(C1) | Apply a filter to the specified waveform |
| FILT2 | FILT2(C1) | Apply a filter to the specified waveform |
| HLBT | HLBT(C1) | The Hilbert's transform of the specified waveform |
| MEAN | MEAN(C1) | The moving average of the 10th order of the specified waveform |
| LS- | | |
| | LS-MAG(C1) | The amplitude of the specified waveform's linear spectrum |
| | LS-LOGMAG(C1) | The logarithmic amplitude of the specified waveform's linear spectrum |
| | LS-PHASE(C1) | The phase of the specified waveform's linear spectrum |
| | LS-REAL(C1) | The real part of the specified waveform's linear spectrum |
| | LS-IMAG(C1) | The imaginary part of the specified waveform's linear spectrum |
| PS- | | |
| | PS-MAG(C1) | The amplitude of the specified waveform's power spectrum |
| | PS-LOGMAG(C1) | The logarithmic amplitude of the specified waveform's power spectrum |
| PSD- | | |
| | PSD-MAG(C1) | The amplitude of the specified waveform's power spectrum density |
| | PSD-LOGMAG(C1) | The logarithmic amplitude of the specified waveform's power spectrum density |
| CS- | | |

| | | |
|---|---|---|
| | CS-MAG(C1,C2) | The amplitude of the two specified waveforms' cross spectrum |
| | CS-LOGMAG(C1,C2) | The logarithmic amplitude of the two specified waveforms' cross spectrum |
| | CS-PHASE(C1,C2) | The phase of the two specified waveforms' cross spectrum |
| | CS-REAL(C1,C2) | The real part of the two specified waveforms' cross spectrum |
| | CS-IMAG(C1,C2) | The imaginary part of the two specified waveforms' cross spectrum |
| TF- | | |
| | TF-MAG(C1,C2) | The amplitude of the two specified waveforms' transfer function |
| | TF-LOGMAG(C1,C2) | The logarithmic amplitude of the two specified waveforms' transfer function |
| | TF-PHASE(C1,C2) | The phase of the two specified waveforms' transfer function |
| | TF-REAL(C1,C2) | The real part of the two specified waveforms' transfer function |
| | TF-IMAG(C1,C2) | The imaginary part of the two specified waveforms' transfer function |
| CH- | | |
| | CH-MAG(C1,C2) | The amplitude of the two specified waveforms' coherence function |
| K1 to K10 | | Constant |

Measurement Parameters

| **Items** | **Description** |
|---|---|
| Maximum | Max value |
| Minimum | Min value |
| High level | High value |
| Low level | Low value |
| Peak to peak value | P-P value (Max – Min) |
| Amplitude | Amplitude |
| Average | Average value |
| RMS | Rms value |
| Middle | Middle value of the Amplitude |
| Standard deviation | Standard deviation |
| Overshoot | Amount of overshoot |
| Undershoot | Amount of undershoot |
| Rise time | Rise time |
| Fall time | Fall time |
| Frequency | Frequency |
| Period | Period |
| Plus width | Plus width(+ side) |
| Minus width | Plus width(- side) |
| Duty | Duty cycle + Width/Period × 100[%] |
| Pulse Count | Nmber of pulse |
| Burst1 | Burst width |
| Burst2 | Burst width |
| Average frequency | Average frequency within the measurement range |
| Average period | Average period within the measurement range |
| Int1TY | The area under the positive amplitude |
| Int2TY | The area under the positive amplitude – the area under the negative amplitude |