



TUTORIAL KREO HMI Operazioni logiche

Tutorial dedicato all'utilizzo delle operazioni logiche
per il calcolo dinamico delle proprietà

Connect
Ideas.
Shape
solutions.

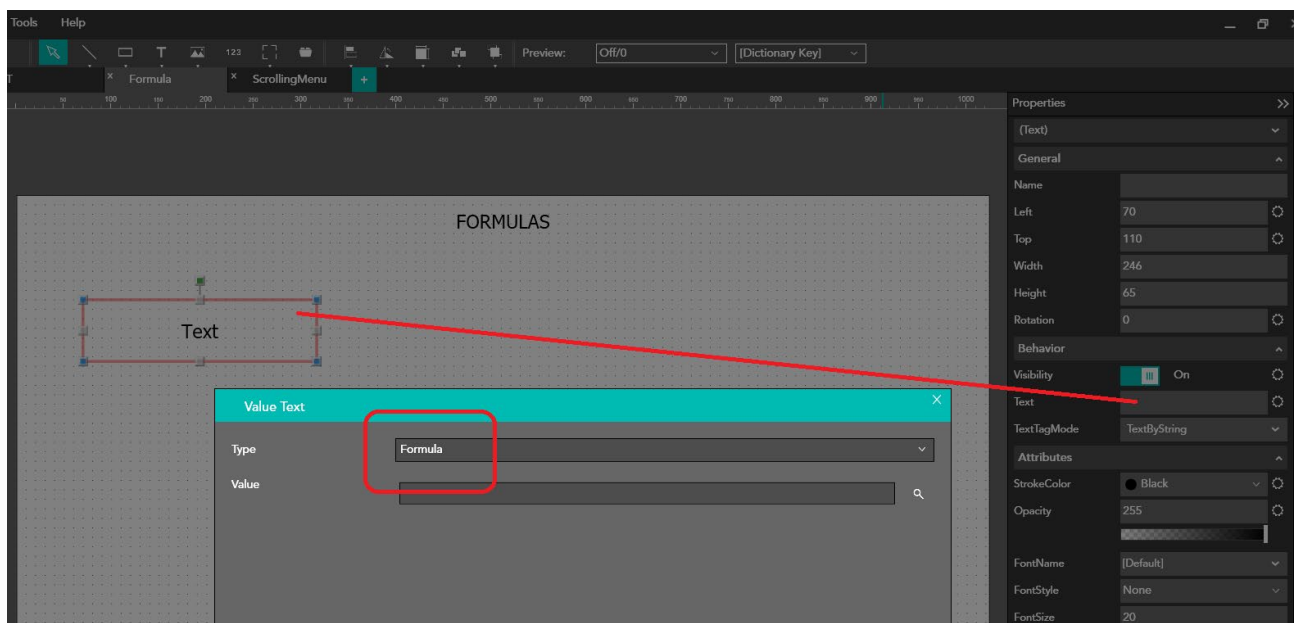


Introduzione

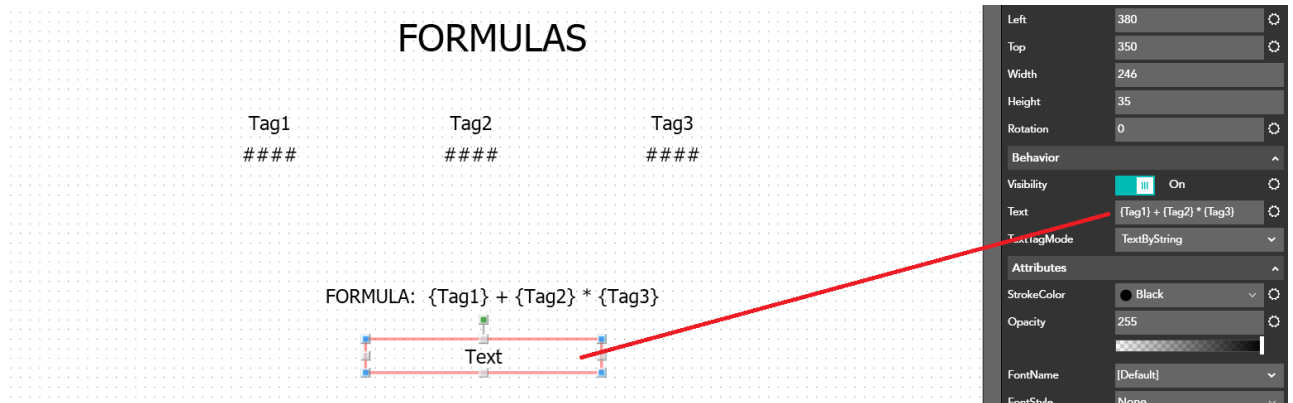
I campi numerici in KREO possono puntare a tag del plc direttamente ma permettono anche di costruire eventuali operazioni logiche (FORMULE) per il calcolo diretto del valore del campo.

Come fare:

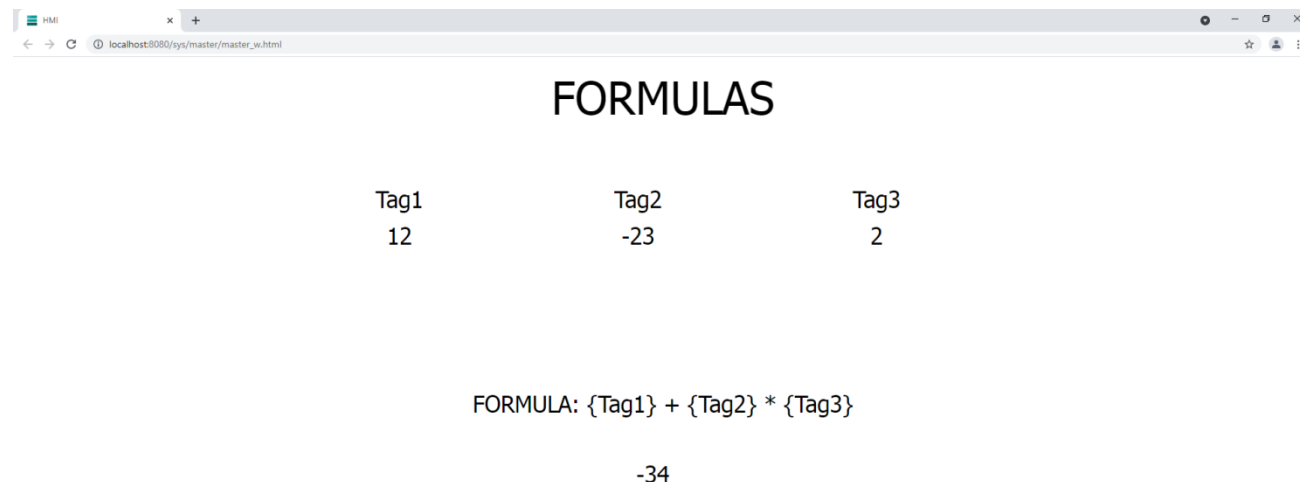
- 1) Supponiamo un semplice campo-TEXT sulla pagina dove il riferimento configurato è la FORMULA desiderata:



- 2) Vediamo un caso semplice di FORMULA: $\{Tag1\} + \{Tag2\} * \{Tag3\}$.
Configuriamo dunque la pagina di progetto con le 3 Tag singole e il campo-TEXT con la formula di cui sopra.



3) Il risultato a RUNTIME sarà una semplice moltiplicazione+somma fra le 3 Tags:



4) Naturalmente i casi si possono poi complicare con svariate operazioni logiche e matematiche.

Le FORMULE supportano la sintassi con notazione Javascript:

- || (logic OR)
- | (bit OR)
- && (logic AND)
- & (bit AND)
- != (DIFFERENT FROM)
- == (EQUAL)
- >, <, >=, <= (GT,LT,....)



Inoltre sono supportati tutti i metodi e proprietà MATH supportate in JAVA SCRIPT:

Math Object Properties

Property	Description
• <u>E</u>	Returns Euler's number (approx. 2.718)
• <u>LN2</u>	Returns the natural logarithm of 2 (approx. 0.693)
• <u>LN10</u>	Returns the natural logarithm of 10 (approx. 2.302)
• <u>LOG2E</u>	Returns the base-2 logarithm of E (approx. 1.442)
• <u>LOG10E</u>	Returns the base-10 logarithm of E (approx. 0.434)
• <u>PI</u>	Returns PI (approx. 3.14)
• <u>SQRT1_2</u>	Returns the square root of 1/2 (approx. 0.707)
• <u>SQRT2</u>	Returns the square root of 2 (approx. 1.414)

Math Object Methods

Method	Description
• <u>abs(x)</u>	Returns the absolute value of x
• <u>acos(x)</u>	Returns the arccosine of x, in radians
• <u>acosh(x)</u>	Returns the hyperbolic arccosine of x
• <u>asin(x)</u>	Returns the arcsine of x, in radians
• <u>asinh(x)</u>	Returns the hyperbolic arcsine of x
• <u>atan(x)</u>	Returns the arctangent of x as a numeric value between -PI/2 and PI/2 radians
• <u>atan2(y, x)</u>	Returns the arctangent of the quotient of its arguments
• <u>atanh(x)</u>	Returns the hyperbolic arctangent of x
• <u>cbrt(x)</u>	Returns the cubic root of x
• <u>ceil(x)</u>	Returns x, rounded upwards to the nearest integer
• <u>clz32(x)</u>	Returns the number of leading zeros in a 32-bit binary representation of x
• <u>cos(x)</u>	Returns the cosine of x (x is in radians)
• <u>cosh(x)</u>	Returns the hyperbolic cosine of x
• <u>exp(x)</u>	Returns the value of E^x
• <u>expm1(x)</u>	Returns the value of E^x minus 1
• <u>floor(x)</u>	Returns x, rounded downwards to the nearest integer



- fround(x) Returns the nearest (32-bit single precision) float representation of a number
- log(x) Returns the natural logarithm of x
- log10(x) Returns the base-10 logarithm of x
- log1p(x) Returns the natural logarithm of 1 + x
- log2(x) Returns the base-2 logarithm of x
- max(x, y, z, ..., n) Returns the number with the highest value
- min(x, y, z, ..., n) Returns the number with the lowest value
- pow(x, y) Returns the value of x to the power of y
- random() Returns a random number between 0 and 1
- round(x) Rounds x to the nearest integer
- sign(x) Returns the sign of a number (checks whether it is positive, negative or zero)
- sin(x) Returns the sine of x (x is in radians)
- sinh(x) Returns the hyperbolic sine of x
- sqrt(x) Returns the square root of x
- tan(x) Returns the tangent of an angle
- tanh(x) Returns the hyperbolic tangent of a number
- trunc(x) Returns the integer part of a number (x)



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