For operators in model 1

$$\mathcal{L} = \frac{k_1}{\Lambda^2}\phi\bar{\phi}F^1_{\mu\nu}F_1^{\mu\nu} + \frac{k_2}{\Lambda^2}\phi\bar{\phi}F^2_{\mu\nu}F_2^{\mu\nu} \tag{1}$$

and model 2

$$\mathcal{L} = \frac{k_1}{\Lambda^2}\phi\bar{\phi}F^1_{\mu\nu}\widetilde{F_1^{\mu\nu}} + \frac{k_2}{\Lambda^2}\phi\bar{\phi}F^2_{\mu\nu}\widetilde{F_2^{\mu\nu}} \tag{2}$$

Where index 1 indicated U(1) field strength tensor and 2 SU(2) field strength tensor.

The couplings k_1 and k_2 can vary independently. These two couplings control the coupling of Dark Matter to four pairs of electroweak bosons, $\gamma\gamma, WW, ZZ$, and $Z\gamma$. The couplings are related by gauge invariance. Therefore a mono-photon signal, for example, will imply a non-zero signal in a mono-Z search as well. The four couplings to pairs of gauge bosons are given by the following relation

$$\begin{aligned} g_{WW} &= \frac{k_2}{s_w^2} \\ g_{ZZ} &= (k_2\frac{c_w^2}{s_w^2} + k_1\frac{s_w^2}{c_w^2}) \\ g_{Z\gamma} &= (k_2\frac{c_w}{s_w} - k_1\frac{s_w}{c_w}) \\ g_{\gamma\gamma} &= (k_2 + k_1) \end{aligned}$$

In the model files the cut-off Λ, as well as couplings k_1 and k_2 may be dialed independently. These are set in the four couplings at the bottom parameter file called ZX,WX,ZAX,AX. Right now the cut-off is set to 3TeV.

One important not for mono-photon or mono-Z signals:
In mono-Z processes, two diagrams will contribute. One that depends on g_ZZ and one the depends on $g_Z\gamma$. There is interference between the diagrams! Scanning over k_1 and k_2 one will find different cross sections.
In mono-γ processes, two diagrams will contribute. One that depends on $g_{\gamma\gamma}$ and one the depends on $g_Z\gamma$. There is interference between the diagrams as well.