We study multiplicative inequalities of Gagliardo–Nirenberg-type which connect partial moduli of continuity and partial derivatives of functions with respect to a fixed variable in different Lorentz norms. The main results are expressed in the estimates of the following type

\[
\left( \int_{\delta}^{\infty} \left[ h^{-\theta r} \omega_{j}^{r}(f; h)^{s} \frac{dh}{h} \right]^{s} dh \right)^{1/s} \leq c ||f||_{p,s}^{1-\theta} \left[ \delta^{-r} \omega_{j}^{r}(f; \delta)^{p,s} \right]^{\theta}
\]

where \(0 < \theta < 1\),
\[
\frac{1}{p} = \frac{1 - \theta}{p_0} + \frac{\theta}{p_1}, \quad \frac{1}{s} = \frac{1 - \theta}{s_0} + \frac{\theta}{s_1},
\]
and indices \(p_i, s_i\) satisfy certain conditions. In particular, from these estimates we derive optimal inequalities involving Besov norms and Lorentz norms. We study also the limiting case \(p_1 = s_1 = 1\) and estimates in terms of the total variation.