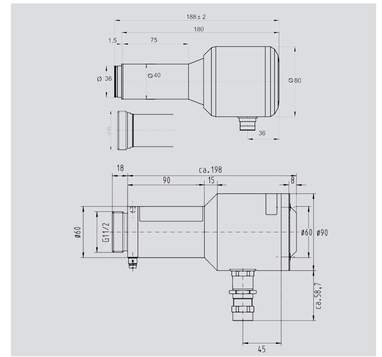
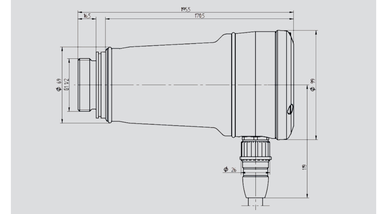
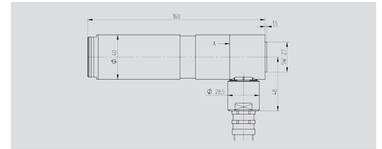
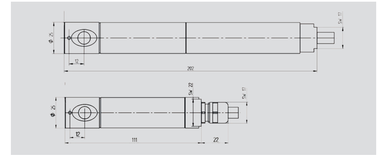
LAMTEC FLAME SCANNER SYSTEMS

System	Sensor	Spectral Range in nm	Viewing Angle	Application	Selection Level	Additional Informations	Dimensions
Compact Flame Scanner F200K (Ex Zone 1, Ex Zone 2 and Safe Area)	UV-1	260 ... 400	8°	Oil, Gas, Flame/smoke-tube boilers	+	Small sensor chip area	
	UV-2	210 ... 380	8°	Oil, Gas, gaseous special fuels, other waste materials without high water content	++	Large sensor chip area	
	UV-3	210 ... 380	8°	Oil, Gas	++	Sensor element similar to UV-2 but smaller chip area	
	UV-6	221 ... 358		Oil, Gas	++	Especially large sensor chip area - mainly used with fibre-optics	
	IR-1	1200 ... 2800	60°	Oil, Gas, Wood and coal fired furnaces with strong recirculation or flames without UV radiation (high water or dust content)	+		
	IR-1 H	1200 ... 2800	60°	Wood grate firing systems	+	Frequency range 5, 10, 17 ... 190 Hz, Safety time 3 s	
	IR-2	850 ... 1200	50°	Combustion space monitoring	+	Frequency range 7,5, 11, 17 ... 190 Hz, Safety time 1 s, Monitoring of combustion chambers and combustion edges (coal, wood)	
	IR-2 F	850 ... 1200	50°	Combustion space monitoring	+	Frequency range 7,5, 11, 17 ... 190 Hz, Safety time 3 s or 4 s, according to specific requirements	
Compact Flame Scanner F300K (Ex-Zone 2)	UVIR-1	215 ... 360 / 1000 ... 1700	8°	Multiple fuels including special gases such as refinery gases and blast furnace gases. Also gases with water and dust content.	+++	Double sensor can be used very flexibly. Three operating modes in which UV & IR components can be weighted and blended.	
	IR-2	850 ... 1200	20°	Combustion space monitoring	+		
	IR-3	1000 ... 1700	60°	Oil, Gas, Wood and coal fired furnaces with strong recirculation or flames without UV radiation (high water or dust content)	++		
	IR-4	1000 ... 2200	60°	Oil, Gas, Wood and coal fired furnaces with strong recirculation or flames without UV radiation (high water or dust content)	++		
	UV-1	260 ... 400	8°	Oil, Gas	+++	same as F200K UV-1	
	UV-4	215 ... 360	8°	Oil, Gas, gaseous special fuels, other waste materials without high water content	+++	same as F200K UV-2	
	UV-4.6 (UV-6 in preparation)	221 ... 358		Oil, Gas	+++	Especially large sensor chip area - mainly used with fibre-optics	
Flame Scanner FFS07 (Ex-Zone 1 and 2)	IR-1	1200 ... 2800	60°	Oil, Gas (Single burner monitoring)	+	in combination with F152 or ETAMATIC with internal flame monitor	
	UV-1	260 ... 400	8°	Oil, Gas (Single burner monitoring)	+	in combination with F152 or ETAMATIC with internal flame monitor	
	UV-4	210 ... 380	8°	Oil, Gas (Single burner monitoring)	+	in combination with F152 or ETAMATIC with internal flame monitor	
Flame Scanner FFS08	IR-1	1200 ... 2800	60°	Oil, Gas (Single burner monitoring)	+	in combination with F152 or ETAMATIC with internal flame monitor	
	UV-1	260 ... 400	8°	Oil, Gas (Single burner monitoring)	+	in combination with F152 or ETAMATIC with internal flame monitor	
	UV-4	210 ... 380	8°	Oil, Gas (Single burner monitoring)	+	in combination with F152 or ETAMATIC with internal flame monitor	

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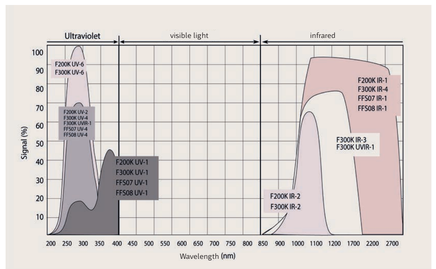

Fig. Sensor signal as a dependence on wavelength

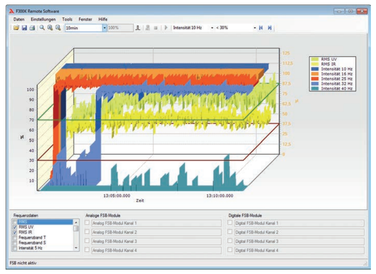
Fig. Flame analysis F300K

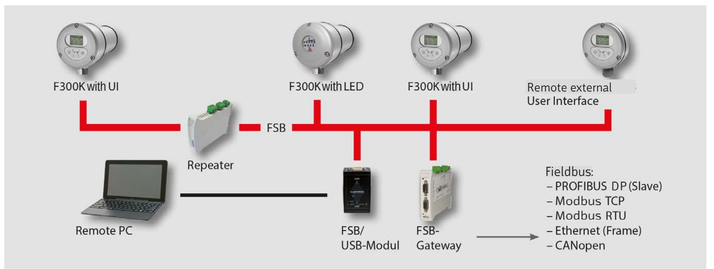

Fig. Example: Networking of several F300K

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Sensors and systems for combustion engineering